U.S. Army service schools, Fort Leavenworth, Kansas.

451395
War
22

COMMAND AND GENERAL STAFF SCHOOL

MILITARY REVIEW

PROPERTY
OF
AIR CORPS LIBRARY
WASHINGTON, D. C.

PROPERTY
OF
AIR FORCES LIBRARY
WASHINGTON, D. C.

March, 1941, Quarterly Review of Military Literature

VOL. XXI, No. 80

016.355
Un 3r
v. 21

Volume XXI
1941

Number 80

COMMAND AND GENERAL STAFF SCHOOL

MILITARY REVIEW

QUARTERLY REVIEW OF MILITARY LITERATURE

COLONEL F. M. BARROWS, *Field Artillery, Editor*
MAJOR M. R. KAMMERER, *Infantry, Assistant Editor*
CAPTAIN O. C. MICHELMANN, *Infantry, Assistant Editor*
LIEUTENANT J. J. GLEASON, *Infantry, Assistant Editor*

March, 1941

First Quarter

THE COMMAND AND GENERAL STAFF SCHOOL MILITARY REVIEW—Published quarterly by the Command and General Staff School at Fort Leavenworth, Kansas. Entered as second-class matter August 31, 1934, at the Post Office at Fort Leavenworth, Kansas, under the Act of March 3, 1879. Subscription rate: One year in the United States and possessions, Cuba and Mexico, $1.00; foreign, $2.00 a year.

12450

124768
PROPERTY OF U. S.

Books

●

The Armed Horde: 1793-1939.—*By Hoffman Nickerson*

Allenby: A Study in Greatness.—*By General Sir Archibald Wavell*

Chronology of Failure.—*By Hamilton Fish Armstrong*

Oliver Wiswell.—*By Kenneth Roberts*

The Wounded Don't Cry.—*By Quentin Reynolds*

America's Dilemma: Alone or Allied.—*By Norman Angell*

Haiti and the United States, 1714-1938.—*By Ludwell Lee Montague*

The Second Empire.—*By Octave Aubry*

The Battle Shield of the Republic.—*By Major Malcolm Wheeler-Nicholson*

For Whom the Bell Tolls.—*By Ernest Hemingway*

Europe in the Spring.—*By Clare Boothe*

●

Comments on the contents of the books listed here may be found on page 72 following.

Periodical
Section

Contents

PAGE

LEADERSHIP 5

STREAMLINING THE OFFENSIVE 9

THE COMMANDER AND HIS GENERAL STAFF 20

WORLD WAR II 23

THE FAR EAST 28

MILITARY NEWS AROUND THE WORLD 32

FOREIGN MILITARY DIGESTS 41

Digests of articles from foreign military periodicals; other items of interest from foreign publications are summarized in the Catalog Section, page 77.

Air Infantry 41

Flame-Throwing Tanks 42

The Suez Canal 43

Aerial Landing Parties and Action Against Them 45

Equipment of German Parachutists 47

Surprise 47

Tanks in Combat for Populated Areas 48

War Games for Battalion, Regiment and Division 48

Cavalry March Training 52

Some Hints to a New Staff Officer 52

Antiaircraft Artillery Firing Against Aerial Landing Parties 55

A New Arm of the German Service 56

German Signal Forces 57

Italian Operations in the Alps 57

Italian Military Thought From the Napoleonic Wars to Our Days 60

ACADEMIC NOTES, C. & G. S. S. 62

Current School material, which affects instructional procedure or tactical doctrines.

Traffic Control 63

LIBRARY BULLETIN 70

Books recently accessioned, which are of particular significance.

BOOK REVIEWS 72

DIRECTORY OF PERIODICALS 77

A systematic review of the contents of selected military periodicals. Foreign-language periodicals are digested to a degree to furnish an adequate idea of contents and significance.

SUBJECT INDEX 89

All subject-headings are arranged in alphabetical sequence and can be consulted like a dictionary.

Mission

The object of this publication is a systematic review of current military literature, through cataloging articles of professional value, in selected military and naval periodicals, in the domestic and foreign field.

Articles from foreign periodicals are treated by translations of titles and digests of contents; material of particular importance is covered more extensively in a section of "Foreign Military Digests."

A "Library Bulletin" Section lists books, recently accessioned, which are of particular significance.

This *Review* is published as a guide to modern military tendencies and to inspire vigorous thoughts on the subjects treated.

The opinions expressed and conclusions drawn in articles are *solely those of the authors and are in no sense official.*

●

Acknowledgment

The editors desire to express their thanks and appreciation to those persons who have valuably assisted in the preparation of material for this issue. The work of contributors has been done in addition to their regular duties and on their own time. We are very grateful to the following officers for their generous donations:

LIEUTENANT J. DASHER: *Krasnaya Zvyezda* (15 June-29 August 1940); *Militärwissenschaftliche Mitteilungen* (March, September, October, November 1940); *Wissen und Wehr* (February, March, April 1940).

MAJOR G. B. DRUMMOND: *Revista Militar* (August, September 1940).

LIEUTENANT B. E. VINARDI: *Rassegna di Cultura Militare-Rivista di Fanteria* (February 1940).

We also wish to give full credit to the *Infantry Journal* for the excellent article by Colonel Altrichter on "Problems of Infantry Tactics in the Attack" that appeared in the December 1940 number of the *Military Review.*

●

The Cover

Tank Maneuvers at Fort Benning, Georgia

Photo by U. S. Army Signal Corps

Leadership

Delivered to students at the Command and General Staff School, December 28, 1940

BY

BRIGADIER GENERAL EDMUND L. GRUBER, U. S. ARMY,
Commandant

This morning when the Assistant Commandant came in to see me just a few minutes before this meeting, he said he hoped I would tell you how to be a great leader. I believe that is something you would not care about. It isn't being a great leader that counts—the important thing is to be just a good, common garden variety of a leader. Like the common people, they must be good because there are so many of them in the Army.

Our Field Service Regulations give us a few hints on Leadership. They tell us that Man is the fundamental instrument in war. They tell us that Leadership is based on a knowledge of men and that Command and Leadership are inseparable. They go on and discuss a lot about Leadership in Chapter 3. You will find it interspersed throughout that text. But strange to say, in the five Field Service Regulations that our Army has had in the last forty years I don't think any one of them, until this new edition, ever said anything about Leadership. Oh, I will take that back. I remember the text we used shortly after I graduated had something on Command, which I believe I would put under Leadership —young men and mules will sleep well in the early hours of the morning. That was homely. Since then I have found that soldiers will sleep at all hours and sleep well. I think of another principle of leadership, one that came out originally under the regime of General Leonard Wood as Chief of Staff, who was a great leader—it said something to the effect that inertia and lack of initiative were more reprehensible in a leader than an error of judgment or a mistake in the application of means, or words to that effect. That has been repeated, I think, in every copy of the Field Service Regulations that we have had since that day. We are admonished to study the lives of great leaders to our profit—we hope to profit by what they did. But I often think we would profit more by studying the lives of men who have failed, because then we would have warning signs telling us what not to do.

If you stop to consider how many really great military leaders there have been, you could probably count them on your digits, there are so few. I remember, in this very room, when I was an instructor, a certain point came up for discussion and it was acknowledged that the decision under consideration probably would be taken by a great leader—whereupon I raised a roar by saying, "But remember in the fifty years of existence of this school it has not turned out a single leader of that kind." And that is true. How many Grants and Lees have we turned out here? But we have turned out a lot of competent commanders—good, capable leaders of men, leaders who were able to pass on their ideas and to inculcate those who served under them.

So the first thing I want to deal with today is the importance of knowing—having knowledge of the behavior and mentality of our soldiers, because man is the fundamental instrument of war. I think it was Napoleon who said: "In war it's the *man* who counts and not men." In the days before the machine gun, quick-firing artillery, tanks and airplanes, when men fought in close order, the masses were held together by drill and discipline. But today large units fight in small groups, each under a leader; very often our men must fight as individuals. Therefore, I have often felt it is the individual soldier and his elemental behavior and impulses that are matters of paramount importance to us as leaders. We should know what his reactions will be under certain motivating conditions, and by observation find out how we can exploit and control those reactions.

A knowledge of men has always been difficult to acquire for two reasons: one, you can not learn from books, and the second is, that soldiers react entirely differently in war from the way they do in peace. Since modern combat is based so largely on the conduct of many small groups, the task of influencing the soldier today does not fall on some courageous plumed general on a white horse, nor is it produced by some commander issuing a proclamation to the effect that "forty centuries are looking down upon you." Just imagine what effect that would have on the average American soldier. I think he would give a good bronx cheer. The job of leading and influencing soldiers in combat falls upon subordinate commanders who are nearer to them and must command them. All the higher command can do is to further the efforts of the group leaders by proper training.

Now what can the command do? What can you gentlemen do as the commanders' assistants—as their staff officers?

In the first place, the command must train you and the subordinate leaders to look after the welfare of the men so that the first essential condition in the group—that feeling of comradeship—can be welded in the group.

Second, the command must train the groups and their leaders to meet the dangers of war and to warn them of the surprises that come from the use of new weapons. Probably nothing has caused more break down—a quicker break down —in the morale of troops than the failure of the command to train troops in what is in store for them in the way of new instruments of war.

Third, the command must prepare the soldier to meet the terrific mental strain of combat, to prepare him for those pro-

found impressions caused by misery and destruction that accompany war.

Fourth, it must impress upon all commanders the importance of studying and knowing the characteristics of subordinate commanders because each must be handled differently and each will react differently under different circumstances. You know yourselves how differently your commanders must be trained in the battalion. The division commander knows that his regimental commanders will react differently in each situation. He must know how each commander will react to the orders that he is going to get.

Fifth, the command must make subordinates feel that they are not alone out there on their jobs—out there in the front. That behind them also is a higher commander and a staff, both of whom are constantly seeing that something is being done about the business in hand.

Sixth, the commander must keep alive the idea of offensive action, because with this idea comes the sense of superiority. He must keep up the feeling of movement, the lack of which so paralyzes combat action.

Let me develop some of those ideas a little further:

Men must be taught to expect accidents, wounded and dead. They must be encouraged in the idea to live for today, and do the job of the moment. They must be taught that war is full of friction, and mistakes are the invariable rule of war, and that everything will seem to be going wrong.

Men must be permitted to cultivate harmless superstitions—the third light from a match, spitting through the fingers, putting the hat on backwards—all those things that give men the feeling of protection and security.

When men feel themselves constrained to accept a situation and get the idea that nothing is being done about the matter, they become nervous and anxious. The job of the staff officers is to anticipate troubles and to be ready to compose them.

We must teach men that their nervous excitement in the first encounter with the enemy will cause them to see danger everywhere.

Every officer and soldier must be warned of false news and exaggerated reports. They must be taught to weigh carefully rumors and to scrutinize reports, and that they must be careful in making reports and of sending them.

Staff officers and unit commanders must get accustomed to the fog of war; they must get used to operating on insufficient information and sometimes with no other basis than that they know what the intentions of the higher commander are.

In war, the average soldier rarely knows what is going on and what's more, he doesn't care to know. He is satisfied if things are going well with him and his buddy. As he sees it, life is hard enough just looking out for himself, and he looks upon that as his biggest problem in life. And I believe he is right. He must eat, he needs drink, and he fain must sleep. If he is cold he tries to keep warm; if he is hot, he will exploit every means to keep cool. If he feels dirty he will find a way to clean up, but he doesn't do that because there is any particular virtue in cleanliness, but because it just makes him feel better.

He knows he must march. He is trained to do that. He really is not so very much afraid of the enemy once he meets up with him. When he meets him he knows that he must fight and he will do that, especially if he is fighting with a buddy alongside of him, when he knows he is part of a group, because he doesn't want to fight alone. He wants to be led. He wants to be *well* led. And he will follow his leader if he is a good one, because he has confidence that this guy will see him and the group through. The average soldier wants to win; to succeed. And if he is well led and well fed he cares little if he is marching or fighting. But all the time he is ready to take a rest, maybe a little snooze. He is always ready to do bunk fatigue. His one idea is to get it over with so he can rest and eat and sleep. And whatever the job, he will always do it much better on a full stomach than on an empty one. There is an old song that you often hear sung—oh, somewhere between eleven and twelve o'clock over in the barracks. It goes to the tune of Old King Cole. You all know it. It begins by telling what all the top grades want, in regular order, and finally you get down to the Buck Private and what he is thinking about—Beer, Beer, Beer. There is a lot of leadership psychology in that song.

The average soldier is little concerned about strategy and grand tactics. If combat action is successful he is pleased. If his leader is able and smart, especially if he is putting over something on the other fellow, he will go anywhere with him. He asks no questions because such things are too much bother. He likes to keep moving because that gives him a feeling of confidence and superiority. If he is going places he knows that things must be going right. He does not mind defensive action if he can keep moving around a little, but he dreads being pinned down to the ground, especially if he gets the notion that nobody is doing anything about it and that all he is doing out there is sitting tight and sticking his neck out to take it.

In war, men are prey to certain emotions—strongest of them are fear, fright and sometimes frenzy.

Fear, you will find, is generally the product of rumors that always spring from a dread of the unknown and a feeling of inferiority. It tends to break up that feeling of security which the individual soldier always finds within the group. You counteract fear by squelching rumors and making gossips look silly. A leader must always do that. If he gets a man in the outfit who is a rumor spreader, he should make it a point whenever he can to make that fellow look like a dumbbell.

Fright is caused by surprise. Its immediate effect is to make the individual think of flight or heedless action. When it affects several members in the group simultaneously in the same way, each discovers that the other is likewise without protection and support and the effects are so compounded that a panic results. Sometimes the only way to break up a panic is to meet it with a greater fright. That might require taking strong measures.

Now frenzy—you frequently see it in ordinary life. You see it on the football field. It is an infectious manifestation of joy which engulfs all those like minded about the favorable outcome of an event. The individual abandons himself to any crazy suggestion by his neighbor—by his buddy. The danger is that it tends to disrupt group action and it may lead to dangerous excesses. In combat its danger is that the group fails to take the conventional action that it would ordinarily take, and thereby it becomes vulnerable to an alert enemy. All commanders and staff officers must constantly insulate

themselves against these emotional infections which will disrupt the group and disturb their men.

Now take the other side of these disruptive influences, those which act on the group and are caused by individuals of that group. You all know that the greatest harmony exists within a group when there is a feeling of equality among its members. Whenever you have a member of a group who attempts to put himself above the group or arrogates to himself prerogatives or privileges, you start a feeling of unrest in that group. You make the other members take positions pro and con and, in general, you begin to loosen that bond of comradeship—that feeling of community that must exist in the group. A similar disruptive influence is started when you permit some member of the group to be separated from it for a long time and during that period the impression gets abroad that the particular member gets some favored treatment not accorded the group.

The formation of cliques is also bad for a group because cliques always have special interests, secrets and gossips that always arouse the suspicions of the other members of the group. You start clashes and conflicting interests, and this goes to the point that finally within the group you have different factions that do not cooperate. A single renegade can never start a rebellion. He must have a clique behind him in order to spread dissatisfaction.

Now all these disruptive influences: privileged individuals in a group, individuals who think themselves better than the others in the group, members frequently detached from the group, and the existence of cliques inside the group, are all sure signs of the loosening of bonds of comradeship and of common interest. The leader who hopes to strengthen his position by catering to such interests only undermines his own position and in the end he will find that the cliques he permitted to exist, or let us say, he supported, will freely stab him in the back simply because he lacked guts and leadership. That is why every commander should carefully watch the component groups of his unit, and stay clear of any favored group or clique. He must study the composition of his groups and remove the rotten apples from the group barrel. He must always strive to compose differences within the groups; be constantly on the alert to constitute his groups so that they will have like interests, if a commander observes these simple rules he will find that the decent elements will always prevail; they will give voice to the reasonableness of his actions and attitude. The men will see that what he does is for the benefit of all and they will accept hardships. They will subscribe willingly to the proper rules of discipline. And if there should be among them some reckless spirit, they will deliver him before he has an opportunity to do any harm. But if they should not, the leader must never falter or fail to take swift and ruthless action, all with a studied purpose of establishing his leadership.

Now I spoke earlier of the hopeless feeling some officers have when they find that there are really few great military leaders. But that should not deter us from practicing good leadership ourselves or inculcating sound ideas of leadership in our subordinates. I know that you gentlemen have fully developed your characters years ago. No one can change that. I recall my father saying to my mother: "You can have these boys until they are fourteen years old. After that I will take them. I will take care of them and build on their character." Well, I think the old man overestimated himself because I think all the character-making was done by that time and he had very little to do with it. Since your adolescent years you may have acquired some veneers. We all do. Unfortunately, this is often an ability to dissemble or to hide your true self. But if you study and watch your brother officer and your subordinates you will find that it is not very difficult to pierce their veil or disguise. In any event, remember that an attempt to imitate the character of some great leader will only produce false and spurious results. Why? Because a man's true character is the result of his own upbringing—his personality—medicos now say his endocrine glands and his early environment. If we know ourselves we will cultivate and rely more on our good traits, and we will be more watchful to mitigate or neutralize our weak points, to watch ourselves when we do not have so much confidence.

In all leadership, character is the foundation. Character is what a man *is*. His reputation is what others believe him to be. And that depends largely upon his professional talents. Together they go to make up his prestige, that is, his influence, and really that is what counts. Prestige is absolutely necessary for leadership. What we want is a man who starts off with an adequate character, who has excellent professional talents, has been able to establish a good reputation and thereby has acquired some prestige. Now all of these things apply to a general staff officer too. His character determines how he performs his duty; his professional ability determines what discretion you will allow him; his reputation, what credence you will place on what he says. These are all attributes which you as staff officers must always think about in your dealings with your subordinate commanders and other staff officers of your collegial group.

Avoid the spirit of routine which dulls initiative and causes officers to view an undertaking with pessimism, and to be afraid to stick out their necks, and to have a fondness for the old American game of passing the buck. I well remember a humorous remark once made by a general officer who had a way of taking the other side of an argument. He believed in doing that simply to sound you out, to feel you out. He pursued this same line with a certain commander and found that, lo and behold, this commander was just turning things against him. So finally he looked at him and said: "Why, what you propose is unheard of. It violates a good old Army custom. The buck is never passed up, it is always passed down."

Avoid hypocrisy and four-flushing, especially when you have nothing on the ball. Have dignity and self-respect, simply because you never saw a clown make a great leader. He may amuse but he doesn't inspire confidence. And you must have the confidence of those you expect to lead.

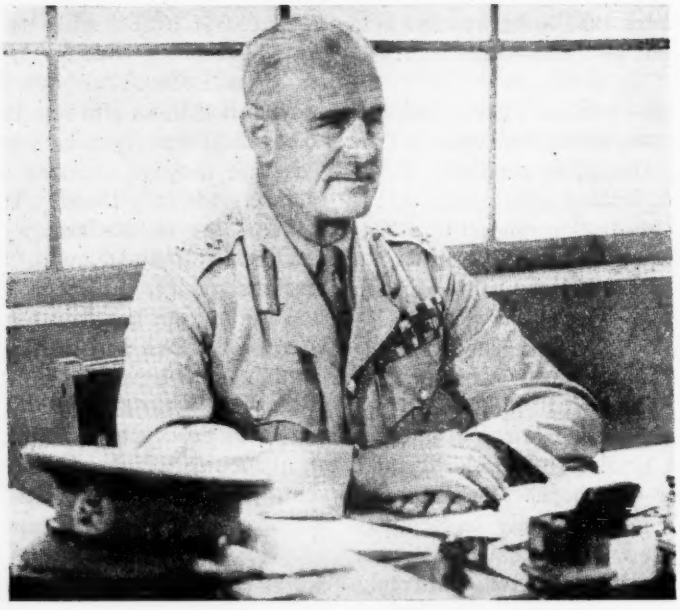
Have a broad tolerance for the ideas of others, otherwise you will be unable to examine ideas and reports of others with an open mind. Know the state of mind of those with whom you deal and those you will lead. You should be restless for the welfare of the men who are to do the work and should look out for their interests and be moderate toward them.

A commander must be willing to accept responsibility. That is the first essential of leadership, and so I repeat what was in our old Field Service Regulations, and what is repeated in the present one: "Every individual from the highest commander to the lowest private must always remember that in-

action and neglect of opportunities will warrant more severe censure than an error of judgment in your choice of means." You will find that statement in paragraph 128 of Field Service Regulations. Please open your text to that paragraph and underscore it.

And finally, let me emphasize this point—that once a decision is made do not dally. Get busy on the execution, and execution does not mean just issuing an order. See that the thing is done and have a resolute will to see it through. Never be afraid to take a calculated risk, especially where the stakes are great. Instill this will in your associates and in your subordinates. Then you can say: "This is a great outfit. It can do anything." And when you can say that you will have learned a lot about leadership.

BRITAIN'S SOLDIER OF THE HOUR



Life (Margaret Bourke-White).

GENERAL WAVELL

Lieutenant-General Sir Archibald Percival Wavell, Commander in Chief of the British Imperial Forces in the Middle East was born in 1883 of an Army family, his father and grandfather having been generals before him. A disciple of Allenby, he learned his lesson well. Sidi Barrani—Bardia—Tobruk—Benghasi tell the story of a truly great leader of our day. When his offensive in North Africa started 9 December, 1940 British prestige in neutral Europe was at a low ebb. Suddenly by his careful planning, ability, daring, breadth of military conception, utilization in full of the principle of surprise and his vigor and speed of execution, he redeemed British prestige which had been seriously impaired by inability to give substantial aid to small European nations defenseless against the superior might of the Nazi war machine, and had been well-nigh destroyed by the crushing defeat suffered by British arms on the continent.

A brilliant commander, "a soldier's soldier," a beloved and trusted leader, he has breathed new life, inspiration and confidence into the British Empire throughout the world.

Generations hence, when the military student or the embryo military leader is looking in the pages of history for examples of leadership calling for thorough preparation, blinding surprise, whirlwind attack, and relentless pursuit he will turn to the Libyan Campaign and need look no further.

—THE EDITOR

Streamlining the Offensive

The Evolution of the Panzer Division and its Place in Blitzkrieg*

By Colonel Frederick M. Barrows, *Field Artillery*

VON BRAUCHITSCH

KEITEL

GÖRING

GUDERIAN

VON SCHELL

One can hardly realize that a year and a half ago, except for the "Incident" in China, there was peace throughout the world, even though it was a peace sitting on a powder magazine. Since that time the entire globe has been encircled by war.

Two years ago the word "Blitzkrieg" (Lightning War) was scarcely known to us, and our idea of war, as a result of World War I and the western walls of World War II, was a long drawn-out struggle in which victory came only when one side succeeded, by means of attrition, in obtaining such a preponderance of force that the other would eventually succumb.

Looking back in history it would seem that the Germans had the idea of Blitzkrieg even before the German nation existed. In the War of 1864, Denmark against Prussia and Austria, but three months were necessary for the defeat of Denmark. Again in 1866 Prussia defeated Austria in six weeks, and but six months were required to conquer France in the Franco-Prussian War of 1870-71, at the end of which Bismarck in the Palace of Versailles proclaimed the unification of the German

*Bibliography at end of magazine.

states into a single nation under the leadership of Prussia. Then came 1914 and the putting into execution of the von Schlieffen Plan, the hammer-head blow that started World War I. How near it came to being a Blitzkrieg is still fresh in our minds. And, today, we have been given the practical definition of Blitzkrieg as exemplified in Poland, Norway, the Netherlands, Belgium and France.

In addition to the word Blitzkrieg, the conception of the phrase "Total War" has been brought home to us. External propaganda and fifth column activity, diplomatic treachery, economic pressure, totalitarian use of industry with but one object in view, internal propaganda to bring about in the minds of the citizens a willingness to war, a gradual diminution of the living standards, the bombing of industrial centers and of undefended cities, the annihilation of commerce by land and sea, these are some of the means used to bring the enemy to terms as speedily as possible.

Another German concept in the waging of war is the utter disregard of losses in seeking a decision. Germany is rich in man power and to her the stressing of the offensive, regardless of loss, is justified. France, on the other hand, has believed in conserving her man power.

So when we put together Blitzkrieg, Total War, the stressing of the offensive regardless of loss, and fit them in their places in a powerful war machine under a master hand, there is little wonder that such astounding results were obtained.

It might be well to state right here that no secret weapons were employed by Germany in Poland or in Western Europe, that the various nations were defeated by the proper application of the well known principles of war.

True, new methods in the application of these principles were adopted, the principal one being the new use of mechanized and motorized forces and airplanes in cooperation with the other arms.

Another quite important thing one gathers from various sources is that the celebrated armored force (the Panzer divisions) did not constitute over 10% of the troops used in battle in Poland or in Western Europe. This 10% refers to the troops of the mobile force actually engaged.

The infantry is still the "Queen of Battles" and the chances are she will be for some time to come.

Mechanization and Motorization

One has heard of late much about mechanized and motorized troops. The indiscriminate use of the two terms has left the reader puzzled. Simply, the distinction is that motorized troops use motor transportation as a vehicle to enable them to reach the battlefield in order to fight there. On the other hand, mechanized troops use in battle the motorized matériel in which they arrive on the battlefield. Of course there is no fine line of distinction and in the German Panzer divisions of which we will speak later, there were both mechanized and motorized troops. It is well to keep this general difference in mind as one reads further.

When one considers mechanization and motorization it is best to keep constantly in mind the idea of relative mobility. A mobile force is really one that is relatively more mobile than the force to which it is compared or belongs. For example, one does not generally speak of a turtle as mobile, though he is exceedingly so when compared to a snail. The cavalryman of ancient warfare surpassed in mobility the skirmisher who moved on foot and was therefore none too fast; yet the latter's mobility was much greater than that of the heavily armed hoplite or legionary. To view mobility in the absolute is to confuse the military significance of the quality.

Evolution of the Tank

The tank idea, the use of motor vehicles and armored vehicles with fire power in battle, goes back as far as history.

When one views the tank as a conglomerate of mobility, impregnability, and fire power—that is, as a self-protected agent, able to move and destroy at the same time—it is apparent that far back, hundreds of years before the Christian Era, the tank idea, in its heavy, medium, and light phases, was well known to the Assyrians, Greeks, Romans, and other ancients.

Let us go back in history for a glance at the ancient tanks.

The ponderous rolling siege tower with its sides impervious to stones, arrows and fire, carrying many men with bows and arrows and other weapons to clear the battlement of its defenders, used by the ancient armies many hundreds of years before the birth of Christ and employed by the armies of the medieval era, can be likened to the "heavy tank." Another "heavy tank" was the battering ram, together with its moveable shed, the "tortoise" (protective armored shed), which could advance in comparative safety against the enemy and smash its way through the stoutest walls.

The ancients also had their "medium tanks" — the relatively fast, heavy, shock-action war elephants, first encountered by European Armies when Porus, the Indian monarch, launched 200 of them against Alexander the Great around 327 B.C. in the battle on the Hydaspes. These elephants' shock-action was tremendous. They carried towers of bowmen, slingers and javelin throwers, each element in the army of Antiochus bearing on its back a structure for some thirty combatants. Also, the war elephant often wielded a sword or small scythe in its trunk, had its tusks pointed with steel and bore long lances and spikes sticking outward from its breast and sides. It had comparative speed, weight and frightful appearance like the modern tank. Even Alexander admitted never having met in combat a danger so worthy of his courage. Elephants served later as a powerful weapon of attack among the armies of the Greeks, Egyptians, Carthaginians, and to a limited extent, the Romans. "Anti-elephant" defensive tactics were developed, just as antitank defense today. Anti-elephant traps were used; a field "ballista" was employed, corresponding to our present antitank gun. The infantry was taught to form lanes and let the elephants charge through, to be handled later by special anti-elephant reserves. Then the infantry would close its lines and would meet the attack of the hostile infantry who were following the elephants.

The war chariot, the ancient "light tank," carrying bowmen and spearmen, sickle-shaped blades on its wheels, its front armored with tough hide or plate, played its part from and before the beginning of history in the battles of the Assyrians, Philistines, Etruscans, Egyptians, Persians, Britons, Irish and the earliest Greeks and Romans. All one has to do is to turn to the Holy Bible, The Book of Judges, Chapter 1, verse 19 and read: "And the Lord was with Judah; and he drove out the inhabitants of the mountain, but could not drive out the inhabitants of the valley, because they had chariots of iron."

Another light tank of the ancient Eastern civilization was the cataphract, the heavily armored horse and rider, employed to break the Greek and Roman heavy infantry line. The cataphract was the forerunner of the medieval knight—ponderous, hard to hurt, and capable of delivering telling blows—comparable more to the "light tank" than to our modern horse cavalry.

The Spaniards around 230 B.C. set fire to their ox-carts and sent the oxen, still drawing the carts, in fright against the Carthaginian lines as a shock wave. They then fell upon the latter from behind the blazing line of carts.

Coming down through the ages one must not forget John Ziska, the blind Hussite, in his battles for Bohemia, who carried his infantry into battle in farm carts, first hauled by oxen, later by horses and finally propelled by men, who especially in battle, got under and behind and pushed them along. Nor should one forget to mention the Hottentots who around 1510 defeated the Portuguese by attacking behind a screen of oxen. Even as late as the South African War of the late nineties the Boer generals used herds of oxen to break their way through the British barbed wire.

Perhaps some may wish to restrict the tank concept merely to self-propelled war machines. Even so, the concept, thus limited, takes one back to Leonardo da Vinci, that Italian man of parts, painter, sculptor, architect, musician, scientist, who flourished about the latter part of the fifteenth century and who proposed a self-moving war machine. Later, around 1600, some inventor really did build for the Prince of Orange a couple of land ships, propelled by sails and moved on wheels. About the middle of the seventeenth century an Englishman patented a self-propelled combat car, while H. G. Wells as early as 1903 in one of his magazine articles envisioned the tank. Later, about 1910, a man, de Mole by name, submitted to the British War Ministry the specifications for a practicable tank—pigeonholed, as is the case with most ideas ahead of their times. In this connection, Liddell Hart tells an amusing story of a Nottingham plumber whose hobby was working on the tank idea. His design, given to the War Office in 1911, was likewise pigeonholed, but pulled out after World War I, the pigeonholed comment having been "The man's mad."

One could go on indefinitely giving examples of past use of heavy, medium and light tanks, including also the various developments of cavalry, with its shock action and fire power; but it is believed enough examples have been set forth for one to realize that the tank idea is not new, the tank of our day merely being dressed up a bit with more mobility, more impregnability, more fire power, more streamlining to keep in style. But it is still the same old tank, just as cauliflower, according to Mark Twain, is nothing more than cabbage with a college education.

World War I commenced in August of 1914 without a tank, and it was not until February of 1916 that the first one was tested resulting in an order for 40, later increased to 150. Winston Churchill and Colonel Maurice Hankey, Secretary of the Committee of Imperial Defense, sponsored the tank idea.

It was in the summer of 1916 that their young tank unit was trained with great secrecy. They called it the "Heavy Section, Machine Gun Corps." This tank section had to be transported secretly by rail, water and again by rail to the battlefield in France and the big machines under the tarpaulins would create too much curiosity if a commonplace name were not given. After considering "cistern," "reservoir," and "tank," the last was chosen.

Their baptism was by the British on the Somme in September of '16, "in driblets"; and it was not until November of '17 that the great British tank attack was launched on a six-mile front at Cambrai, with nearly four hundred tanks, followed by some infantry, penetrating five miles to include three lines of the German defense. This attack was in every way successful, but there were no troops for exploitation. Later, in August of '18, Ludendorff realized the potentialities of the tank when he reported after a great tank surprise attack "mass attacks by tanks . . . remain hereafter our most dangerous enemies."

The Germans really began to fear the tank possibilities toward the end of the war, for the General Headquarters in a report to the Reichstag stated: "The Chief Army Command has been compelled to take a terribly grave decision and declare that according to human possibilities there is no longer any prospect of forcing peace on the enemy. Above all, the two facts have been decisive for this issue; first, the tanks . . ."

The Allies were contemplating a huge offensive in the Spring of 1919 with an estimated total of some 25,000 tanks. The greatest number Germany would have been able to have by that time would have been about 8,000.

Evolution of the German Armored Force

Before going into the evolution of the German Armored Force, let us go back a bit to the late 60's when the mechanical revolution started. This was the beginning of a momentous change in the military science, and the changes in tactics and strategy, though gradual, were profound. Cannons and muskets increased in range and accuracy; gas engines brought automobiles and trucks to the battle area; the airplane was born and, as stated above, the World War tank made its appearance. Gradually the telephone, the telegraph and the radio made their debut on the battlefield. In the light of what has recently happened in Europe it is well to bear the above in mind to make the picture clearer as we proceed.

The principal tank lesson learned from the World War was that although tanks in force could make a breakthrough as they did at Cambrai in 1917, there must be a force ready to exploit that breakthrough.

With this lesson learned the Germans were fortunate, due to the Versailles Treaty which prohibited Germany's having any tanks. They could begin anew, and did not, from an economical point of view, have to use their old and obsolete tanks for many years as did the Allies. The Germans unquestionably learned the lesson better than did the French, for they reached the conclusion that the tank is "the most powerful offensive arm that can be employed in land warfare" and also that it should be used both independently and in conjunction with other arms, while the French have regarded the tank "as a supplementary means of action placed temporarily at the disposal of the attacking infantry on whose effort, in the long run, victory or defeat will depend."

It was really through the writings of General Ludwig Ritter von Eimannsberger in his *Mechanized War* that Germany became tank conscious. Among other things, he maintained that breakthrough tanks were as necessary in modern war as armored divisions and attack aviation. It was General Heinz Guderian, however, who became the master tanker, and his successes in Poland and Western Europe commanding large armored forces will be long remembered.

Not until the early thirties did Germany get busy on her tank program and by 1935 she had secretly got together a force which, with its armored and motorized troops, was imposing enough to march into the valleys of the Rhineland and the Saar with barely more than a whimper from France. This encouraged Germany to start building up her mechanized and motorized forces to the gigantic proportions which brought chaos to so much of Europe.

So Germany under the leadership of Hitler began in earnest on her career of mechanization, produced a small armored unit, quite a change in military organization, and turned over to the armored unit commander the development of an armored division.

The next four years were spent in enlarging and perfecting this armored organization. For example, Colonel von Schell, then a Colonel of the German General Staff, visited Knox and Benning in 1936 and viewed our young mechanized force at work. Even then we were not asleep at the switch, though our armored force was in an experimental stage and of course lacked proper equipment. We are a republic, and armored forces are expensive; so we lacked the necessary appropriations which are seldom lacking in a totalitarian state. Colonel von Schell kept his eyes and ears open and took back to Germany much information of value. Such was the case with other German officers throughout Europe. Later the Spanish War was a big help and showed the strength and weakness of the German armored force and air service sent to help General Franco. Germany also derived much benefit from her maneuvers and from her march into Austria and later, into Czechoslovakia; so when the time came for beginning her Blitzkrieg in Poland in 1939 she had a force fairly well trained in mechanized and motorized maneuver, *imbued with the offensive spirit*, confident in the conquering ability of the German nation, and champing at the bit, ready for the task ahead. Theatrically speaking, Poland was her dress rehearsal for the mammoth production to be staged later in Western Europe.

Composition of the German Armored (Panzer) Division

One has heard much since the Polish campaign of the Panzer Division, or armored division, as we call ours, and many wild tales have been told. One would be led to believe by some writers that the Panzer division was the whole German force, that there were no other troops, that the idea of having any forces other than Panzer divisions and air troops is a waste of time. Such writers were either uninformed or were mere sensationalists, writing for effect and doing far more harm than good. Fortunately there were saner writers.

True the Panzer division did a good job, as did the air service; but let us not forget that the great bulk of the force was slow-marching infantry (some of it motorized), with its auxiliary troops such as artillery, engineers, cavalry and service troops. May it be stated again for emphasis that the Panzer divisions constituted about 10% of the actual mobile combat force, and the Panzer division itself was not all tanks as is well known.

Let us see just what the Panzer division did contain. To be brief and to generalize, it was made up of:

A headquarters
1 reconnaissance battalion
  Composed of light armored reconnaissance cars, radio cars, motorcycle company, etc.
1 mechanized brigade of two tank regiments, both medium and light tanks (some 450 in all)
1 brigade of motorized infantry (2 regiments)
1 regiment of motorized artillery (105-mm or 75-mm) (projectiles weigh around 35 lbs. and 15 lbs., respectively)
1 antitank battalion (20-mm)
1 motorized battalion of pioneers (engineers) and 1 ponton (bridging) column (engineers)
1 motor signal battalion
Service elements.

In looking over the above organization, one can readily see that the reconnaissance battalion is for distant and close reconnaissance, the tank brigade for shock action, while the infantry with its supporting troops is the ground holding force.

This armored division had in it between 13,000 and 15,000 men and approximately 3,000 motor vehicles of all classes; and when in movement, on a single road, would take up over fifty miles.

It might be well for us to recall that the light tanks weigh around 10 tons, the medium around 20 tons, and the heavy (to be mentioned later), 40 tons or more. The light tanks generally carried machine guns and one-pounders; the medium, machine guns and 75-mm guns (the projectile weighing about 15 lbs.) and the heavy, machine guns and guns of 75-mm or greater caliber. (Heavy tanks generally in GHQ reserve and used in the breakthrough.)

Writers disagree as to the details of organization of the German Panzer division but all give approximately the same general picture, so it is believed the above description is near enough for all intents and purposes, and a little variance one way or the other would make no difference when telling the story of the Panzer units' place in the battle of Europe.

As it is not possible to obtain definite information at this time, it would be folly to strive for any more accurate figures and would be misleading, to say the least.

The Panzer Division's Place in the Attack

Because Germany is still at war, and her evident wishes not to divulge too much, it will be some time before a really true account of the role of the German armored divisions will be known; but from the many and varied reports received in this country and articles in both foreign and domestic publications, it is believed a fair description can be given. It would seem in the attack of a defensive position, sometimes they made the penetration themselves and then the breakthrough, while at other times the troops already opposing the enemy made the penetration, and the armored divisions from concealed positions in rear, came forward, made the breakthrough, and then on to the exploitation and pursuit. In both cases the penetration was made by tanks, infantry, and engineers, supported by artillery and aviation. When the penetration was made by the armored force itself, the tanks, infantry, engineers and artillery were an organic part of the armored force; but were not when the penetration was made by the troops already in position.

Let us describe roughly the general mode of attack and how these Panzer divisions operated in Poland and western Europe. In the first place, Germany, having a preponderance of airplanes, silenced or rendered practically useless those of the enemy. She also bombed and attacked airdromes, railway and communication centers, bridges, enemy concentrations, batteries, trenches, command posts, etc.

The artillery played its part in support of the attack, either with or without an artillery preparation as the occasion demanded. Machine gunning and dive bombing took place at the same time by the aviation. The tanks, infantry, engineers, supported by the artillery and aviation, made the penetration, attacked the flanks of the penetration, attacked the enemy reserves, and protected the flanks of the armored force that moved on and advanced deep into the enemy country, and

assisted by the aviation, attacked the enemy in rear, further rolling up his flanks, captured towns, bridges, telephone centrals, strong points, etc., and held back reinforcements. The armored force would hold these until the motorized infantry and artillery would take over to be relieved later by the foot troops and horse artillery, the motorized units going on to relieve the armored force of holding the new points captured from the enemy.

Later on will be explained how the Germans would make a breakthrough of a fortified position, or attack an enemy on the opposite side of an unfordable stream, but before doing so it is believed best to leave a graphic impression of the operation just explained. The charts on pages 17, 18, 19, show how the armored divisions operated when not a part of the force making the penetration, such case being given because it affords a better picture than would the case of the armored force making the penetration itself.

Panzer Divisions in the Pursuit and in the Open

The Panzer division after passing through the gap made for it in the enemy line was then on its way to do the job for which it was cut out, namely, exploitation and pursuit. Unquestionably, all the German armored divisions were "imbued with an impetuous determination to defeat the enemy and to pursue him to destruction, without allowing themselves even a moment's wait." This spirit was manifest in all of their operations in Poland and Western Europe.

Coming now to the Panzer divisions in the open, let us see just what they did. In the first place they had the protection from the air of friendly pursuit planes, attack planes and dive bombers, of parachutists dropped ahead of them to secure bridges, interfere with communications and secure landing fields for friendly air infantry. Among the objectives of these armored divisions were enemy reserves, reinforcements, telegraph and telephone centrals, messengers, bridges, supply establishments, airdromes, villages, towns and even cities. Some of them operated on the rear of the flanks of the breakthrough to widen it. They appeared to run wild all over the country but that was not the case. There was method in everything they did, as one should well know when considering the German from his past operations. No German war or battle was ever fought in which planning, method and deliberation did not play an important part in the preparation and execution.

The Panzer division was a self-contained unit with all the arms and services in numbers sufficient to take care of itself for some days; but, like the air service, it was not able to hold what it captured indefinitely, and needed the motorized infantry and artillery in large numbers to take over until the foot troops with their horse artillery could relieve them and consolidate.

Both in Poland and Western Europe these divisions would make prodigious marches fighting as they went, breaking up all resistance, rushing deeper and deeper into the enemy rear areas and in some cases would find themselves ahead of their own infantry as much as 50 or 60 miles. In this connection, one hears of the feat of General Guderian in marching 190 miles to the Swiss border in seven days. Yes, wonderful it was, but let us not forget that the marches of lightning speed with hostile opposition were made hundreds of years ago when horses were the fastest means of locomotion. Take the "Very Mighty Ruler" Genghis Khan's great General Sabutai, who in the space of a month "covered more than 400 miles, fighting two decisive battles, destroying four cities, and breaking all resistance in Poland and Silesia from the Vistula River to Liegnitz." Again his "main column, some 40,000 strong. He takes . . . with him. . . . The smaller engines, dismounted and roped to sleighs . . . Down from the pass, out into the Hungarian plains, Sabutai's forces gallop 180 miles in less than three days."

Napoleon was no slouch when it came to moving cross-country. To quote: "For what troops, what preparations, what courage, what capacity was there in the south to have resisted even for an instant, the progress of a man, who, in ten days, and in the depth of winter, crossing the snowy ridge of the Carpathians, had traversed 200 miles of hostile countries, and transported fifty thousand men from Madrid to Astorga in a shorter time than a Spanish courier would have taken to travel the same distance!"

With mechanized forces such as the Panzer division, the results must be obtained quickly, otherwise the losses will be too great. In these Blitzkriegs probably one-quarter of the tanks were put out of action by one means or another; and replacement, when many miles from the source of reinforcements, was almost impossible unless, perhaps, another Panzer division could bring the tanks up to the one needing them.

One often wonders what might have happened to the Polish Blitzkrieg or the Western battle had not God given them "Hitler weather," as the French call it; rain and mud might have told a different story. Tanks and mud don't get along at all, while rain quickly blinds the eyes of the airplane.

Attack of Fortified Zones

Much has been written concerning the German attack of fortified positions, and it will be some time before accurate data can be procured. However, it is known in general how it was done, and the following gives a fairly good description.

On 19 May, 1940 orders were received to capture a fort on Hill 505, this fortification being a part of the Montmedy fortified zone. When this order was received the German units had occupied a jump-off position approximately 1,000 yards from the fort.

During the evening of 19 May, the artillery began its preparation with guns of heavy and medium caliber, the ground in front of the fort being covered with great craters but the fortification being little damaged. After this preparation the engineers, supported by an infantry battalion and artillery of all calibers, began their advance, the French continuing to pour machine-gun and artillery fire from the fortified towers. Under this hurricane of fire the engineers reached the dead space of the fortifications and laid their explosives. Shortly after, the explosions occurred, throwing upward the steel cupola of the tower. Continuing this painstaking work, the engineers put out of action tower after tower, and after a 48-hour assault the fort was captured.

Let us now see a Russian description of how the Germans captured Fort Eben Emael, the key to the Liége defenses. Fort Eben Emael commanded all the crossings of the Meuse and the Albert Canal at Maastricht. This fort had 6 permanent fortifications with armored towers 5 yards in diameter; also 7 with armored domes 3 yards in diameter. In addition, there were 6 permanent antitank fortifications on the outside. The fort's armament included 36 guns of light and medium caliber.

This entire group of fortifications was surrounded by deep ditches and barbed wire entanglements, the northwestern portion of these ditches being filled with water. These ditches were 20 yards wide at the top and 10 at the bottom.

One and a half companies of parachutists were dropped on the fort's superstructure under protection of artillery fire and

dive bombers. These parachutists held the fort garrison helpless until German units advancing from the north, after severe action, established contact with them and forced a capitulation.

In the attack of fortified zones and places, combat engineers were employed to clear mine fields and barriers. Smoke screens were extensively used. Turrets and cupolas were fired at with high velocity antitank guns, antiaircraft guns and heavy machine guns, all at short ranges so as to hit the port holes. Mine throwers, grenades, mortars were employed. All combinations of the above were used depending on the nature of the operations and the terrain.

Attack of a River Line

Another operation that has always seemed well-nigh impossible to the average reader is the forcing of the crossing of a river defended by a formidable foe in a fortified position on the other side. According to the Russian source above mentioned, it was done as related below. The operation described is the breakthrough of the Maginot Line by the forcing of the Rhine in the vicinity of Breisach, the operation being undertaken on the morning of 14 June on a front of about five miles, the regiment which forced the Rhine being reinforced by a battalion of engineers.

A few weeks before this operation the German artillery held the entire enemy Rhine front under constant but not intensive fire to determine the weak spots in the line of fortifications. The part opposite Kaiserstuhl to the north of Breisach was located as such a spot. At this point the Rhine is not over 200 yards wide, its current, however, being quite swift.

By 14 June the Germans had concentrated on the wooded hills around Breisach a large mass of artillery of all calibers and in addition some 88-mm antiaircraft guns. On the night before pontoons and flat-bottom boats were brought close to the bank and passages prepared. This was done in secret along a mile front, rainy weather being of great aid. At 10:00 AM on 14 June the artillery opened up on the French fortifications on the opposite bank. At the same time the engineers started to float the boats, thirty being ready in the regimental sector, equipped with outboard motors, each boat with a portable machine gun. The boats of the first echelon, on reaching the opposite bank, established a smoke screen as a protection for the echelons following.

Within four minutes of the start of this forcing operation, an entire company was landed, which, with engineer support, attacked the French fortifications. During this operation, the following tactics were employed. The permanent fortifications were blinded by smoke bombs; then the engineers with explosive charges crawled close to the fortifications and endeavored to blast their guns and machine guns.

Flame throwers were sent forward under cover of artillery and machine-gun fire. Just as the flame throwers ceased operations, the engineers attacked the entrance door of the fortifications and blasted it. If the reserve of explosives was exhausted or not available, the embrasures were blocked with sacks of earth.

When the garrison would not surrender after all this, powerful explosives were detonated on top of the fortification.

After successfully landing the first echelon, motor pontoons were used and at 11:00 AM the engineers started an abutment for a pontoon bridge. As soon as the breakthrough of the first line of French permanent fortifications was accomplished, the engineers began laying the bridge. The fighting was then transferred to the second line of fortifications some 1½ miles from the crossing.

In this operation, because of bad weather, practically no part was played by the air service in protecting the crossing. The Germans did not use any armored or tank forces. In general, emphasis should be called to the close cooperation of aviation, artillery, infantry and engineers by the Germans in their operations against permanent fortifications.

It is interesting to learn what training was given for this operation. On training grounds in rear, the most characteristic French and Belgian fortifications were produced and various methods of overcoming the fortifications developed. Also, the training of the engineers and special landing parties for the Rhine crossing took place on the Elbe River.

For the blasting of the apertures in the permanent fortifications and in machine gun pillboxes much use was made of the antitank gun and the antiaircraft gun, with their flat trajectories. This is a new use for these weapons and proved most satisfactory. In addition, the Germans in their river crossings used many amphibian tanks.

Use of Parachutists and Air-borne Infantry

Foreign reports indicate that for her operations in Holland and Belgium, Germany had a corps of two divisions, the one consisting of parachutists, the other of units transported in airplanes.

The parachute division is composed of battalions of 500 parachutists, the division totaling 5,000. Each battalion is armed with one 75-mm gun, one 81-mm mine thrower, thirty 50-mm mine throwers, 12 machine guns on fixed mounts, and 44 light machine guns. Each parachutist carries an automatic pistol, hand grenades and dynamite sticks. Individual missions may be executed by companies, platoons and squads, the armament of each squad (other than the individual equipment) being thrown separately by a load-parachute.

One of the important tasks, as reported by a foreign source, was the capture of the Albert Canal bridges by German parachute troops. This source states that "the possession of these bridges was a decisive factor in the development of the German offensive." It states further that "a parachute party also captured the bridge across the Maas (Meuse) River at Murdyke, assisting the advance of mechanized forces marching on Rotterdam."

Very little information is at hand concerning parachutists and air-borne troops, but there is no doubt that in future operations they will play an important part.

Reasons for the German Success

Many reasons have been given for the German success in Western Europe, but probably the following had much to do with it:

1. That indomitable offensive spirit which imbued the German troops.
2. Her preparations for war for at least six years, together with her experience gained in Spain, in her maneuvers, in her marches into Austria and Czechoslovakia and her dress rehearsal in Poland.
3. Her "overwhelming superiority in immediately effective combat power."
4. Her superiority in planes and tanks and her employment of new tactics in their use, as well as in the

use of other units such as engineers, antitank guns and antiaircraft guns.

5. "The pushing of fresh troops into dents and gaps secured, all night long, so as to have an overwhelming force ready in the morning."
6. The Allies' false feeling of security instilled by the Maginot Line.
7. The Allies' apparent utter disregard, until too late to make amends, of Germany's preparations for a mighty war.

Evolution of the U. S. Armored Force

Undoubtedly there are few people who know that the armored force idea—that is, an armored mobile force, able to sustain itself for a short time against hostile opposition—is not new in this country, and that as early as 1928 General Charles P. Summerall, then Chief of Staff, created at Fort Meade, Maryland, the Experimental Mechanized Force. This was the first of its kind in our army and constituted a self-contained force similar to the German armored division, though on a much smaller scale with armored cars, tanks, infantry, artillery, etc. Everything in it was either mechanized or motorized. After that force had passed through many tests and the various units had gone back to their organizations, another Mechanized Force was created at Fort Eustis, Virginia, having about the same history as the first. As early as 1931, and perhaps earlier, studies were made at the Army War College concerning the proper organization of armored divisions, the past experience with armored units and the experience of student officers being utilized in these studies.

Somewhere around the middle '30s, the Mechanized Force was organized at Fort Knox, Kentucky from the 1st Cavalry, eventually developing into the 7th Cavalry Brigade (Mechanized). This outfit had much experience in maneuvers and in long test marches.

From this small beginning the Mechanized Force gradually developed until it is now an armored corps, with the 1st Armored Division at Fort Knox, Kentucky, and the 2d Armored Division at Fort Benning, Georgia. Also, it would seem from press releases by the War Department that two new armored divisions will be formed this summer.

Composition of the U. S. Armored Division

The U. S. Armored Division is organized tentatively as follows:

A headquarters
1 reconnaissance battalion (armored)
1 armored brigade
  Composed of 3 tank regiments, 2 light and 1 medium
1 regiment of infantry (armored)
1 regiment of field artillery (armored)
1 battalion of field artillery (armored)
1 battalion of engineers (armored)
1 signal company (armored)
Service elements.

It will be seen that the U. S. Armored Division is organized much the same as that of Germany, the difference being, generally, in the amount of the various components. One must remember that the armored division is a very young child whose character is not yet formed, and time only will tell what it will be when it reaches maturity.

Tactics of the U. S. Armored Force

The U. S. Armored Force tactics are, of course, in an embryonic state by reason of the organization's youth, the lack of accurate information as to the German armored force in Poland and Western Europe, and as to that of England's in northern Africa. However, by quoting the following official language of the War Department, some idea of its use will be made evident:

"The armored force is the assembly under a single head of all mechanized troops in the United States Army, and combines the infantry tanks with the mechanized cavalry. In modern warfare it is the heavy cavalry of a motorized and mechanized army.

"The form of action of the armored divisions is offensive and aggressive. It sustains surprise by the speed and drive of its tactical movement. It uses its mobility to choose the most favorable directions of attack to reach vital enemy rear areas.

"Its defense is elastic and mobile and characterized by the counterattack. It does not seek to attack the strong place of the enemy. It places its strength in the weakest place in order to break through and penetrate the rear areas of the enemy.

"Once into these rear areas it fans out to cut communications and supply, and then, by dual development, drive the enemy up into the holding force of the infantry. In this maneuver the enemy has no alternative to save him from destruction.

"The only course left to him is to retreat, yet, in so doing he leaves his flanks unprotected and subsequently his forces vulnerable to destruction."

As Lieutenant Colonel Victor W. B. Wales said last month in a conference here to a class at the Command and General Staff School: "It is not sufficient to pattern our doctrines, organization, training and tactics after those adopted by any other nation. We have to base our solution on our national characteristics, economic situation and on the principles of war, and doctrines that we have developed in our own service. It is not enough to be equal, we must be superior. This calls for original thought, initiative on the part of all military personnel and constant study and experimentation."

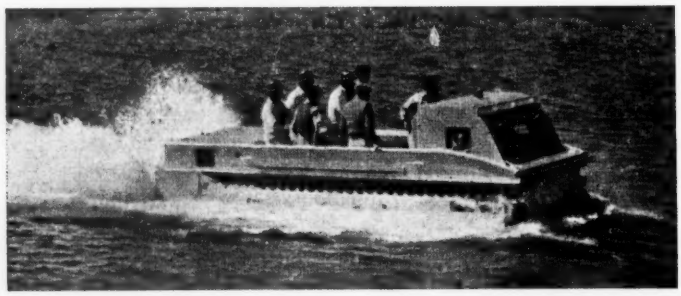
Conclusion

One often wonders just what made the German nation what it is today, a nation that has in such a short time subdued the greater part of Europe. Hitler, though a contributor, did not do it. Let us think back a bit. It is well known that generally wherever some profound national spirit has been developed, a basic continuity can be traced. There would appear to be no exception in the case of Germany. Do not its roots reach back through the various epochs of militarism to the old Teutonic Knights, that order of knighthood formed by German knights in 1190 during the siege of Acre by the Crusaders and recognized by Pope Clement III in 1191? Seeing no future in Palestine these knights went northward and conquered the heathen Prussians, inhabiting the Baltic regions to the northeast of Germany, finally subduing them completely by the end of the thirteenth century and then held them in subjugation some 200 years. They planted Christianity by fire and sword, founded cities.

In this connection, Frederick the Great, who believed in making his battles of short duration; Scharnhorst, reorganizer of the Prussian army; Bismarck and his able assistant, the elder von Moltke, conquerors in three lightning wars; von Schlieffen, author of the von Schlieffen plan, the hammerhead

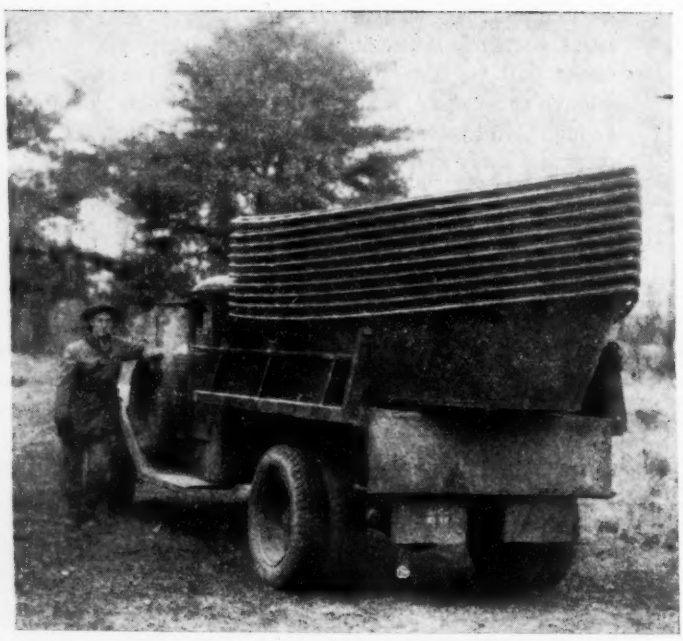
of 1914; Kaiser Wilhelm and his lieutenants, the younger von Moltke and von Bulow, almost winners in a lightning war; also Ludendorff, Hindenburg and Tirpitz; and in today's Blitzkrieg, Keitel, commander of the army, navy and air service, von Brauchitsch, commander of the army, Raeder, commander of the navy, and Guderian of the armored forces; all of them born within the boundaries of Prussia. Unquestionably, it might be said that that indomitable, unconquerable, military spirit of that iron order of Teutonic knights, "noted for their rigorous and inflexible discipline, a gift of political and military organization, a denial of individuality, a disdainful clannishness, a fanatical sense of mission and superiority, a savage love of war," is to a great extent responsible for the Germany that is today.

And in conclusion may it be added that the order of Teutonic Knights was revived as an Austrian Order and Der Führer was born in Austria. Interesting to say the least.



The Illustrated London News.

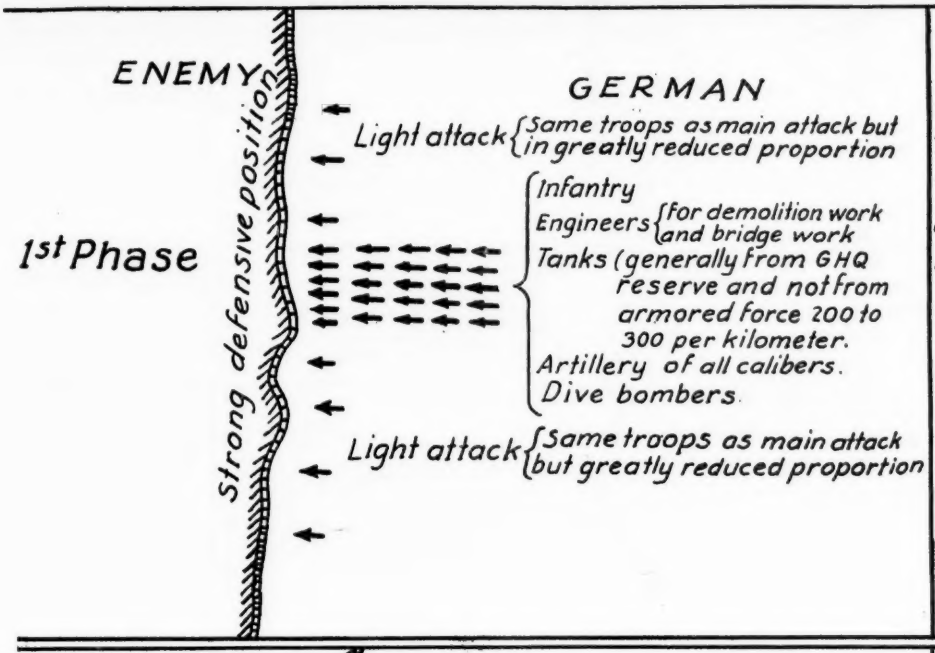
U. S. Amphibian Tank



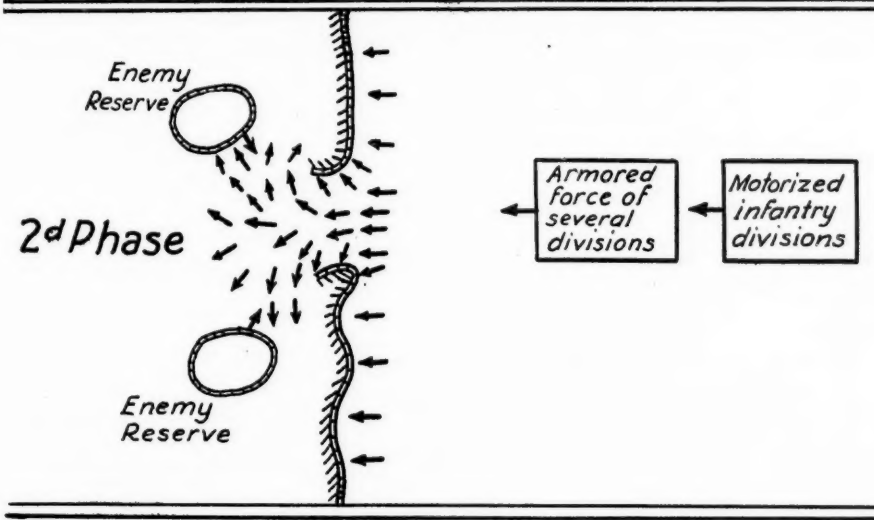
The Pointer.

One and One-half Ton Truck, Carrying Ten Nested Assault Boats. Equipment of U. S. Engineers.

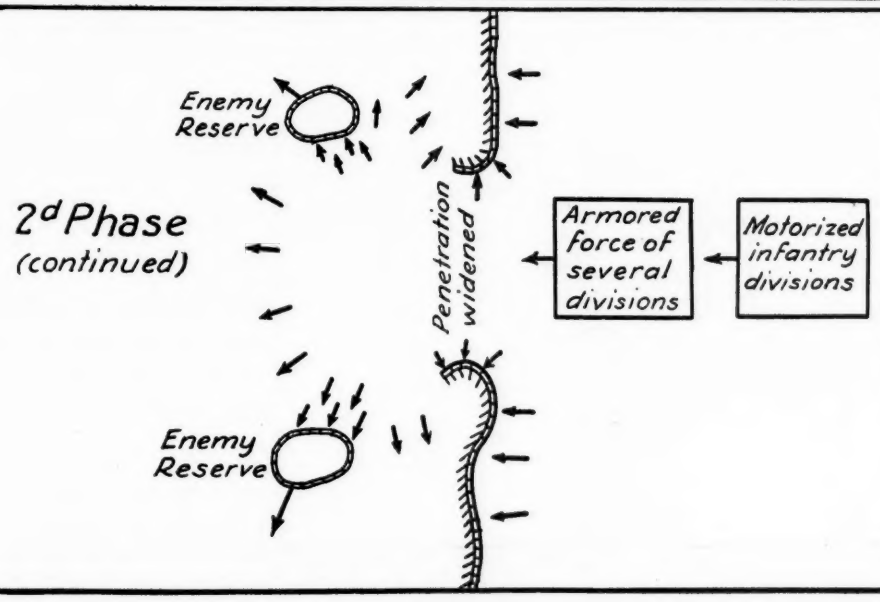
These charts show the penetration and breakthrough of a defensive position in which the armored force is not a part of the force making the penetration.


ENEMY
GERMAN
Strong defensive position
1st Phase
Light attack
Same troops as main attack but in greatly reduced proportion
Infantry
Engineers
for demolition work and bridge work
Tanks (generally from GHQ reserve and not from armored force 200 to 300 per kilometer.
Artillery of all calibers.
Dive bombers.
Light attack
Same troops as main attack but greatly reduced proportion

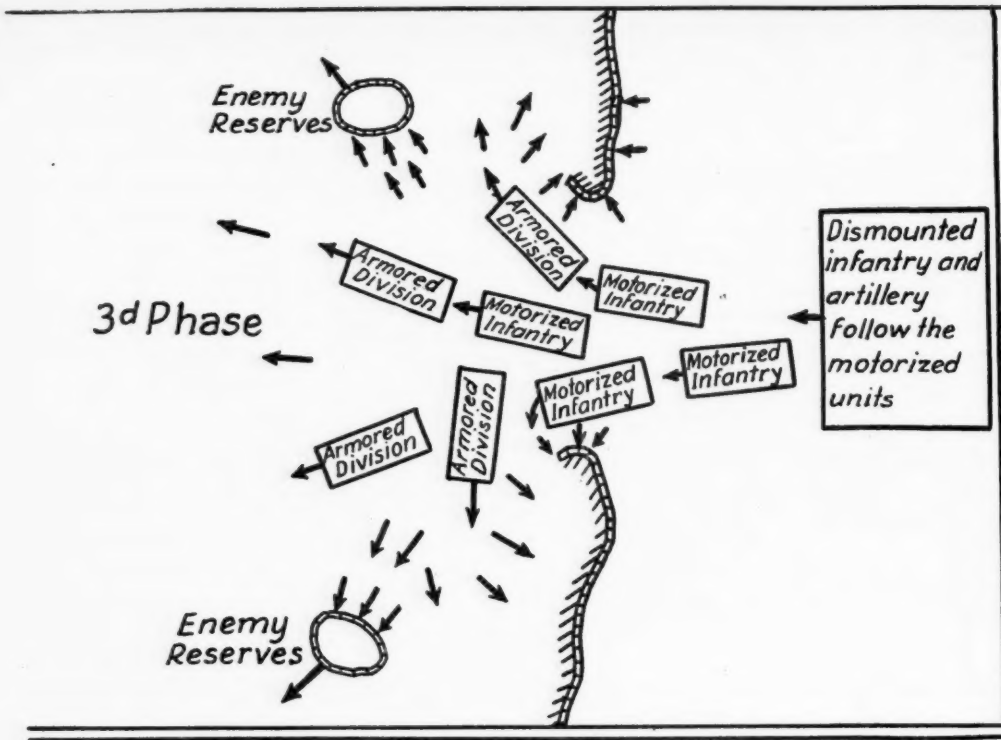
Overwhelming force is brought up to front opposite which the penetration is to be made; this during intensive preparation by artillery, dive bombers and attack planes. Generally no part of armored force is in this attack but is all held in rear in concealed positions until main attack has penetrated the enemy position.



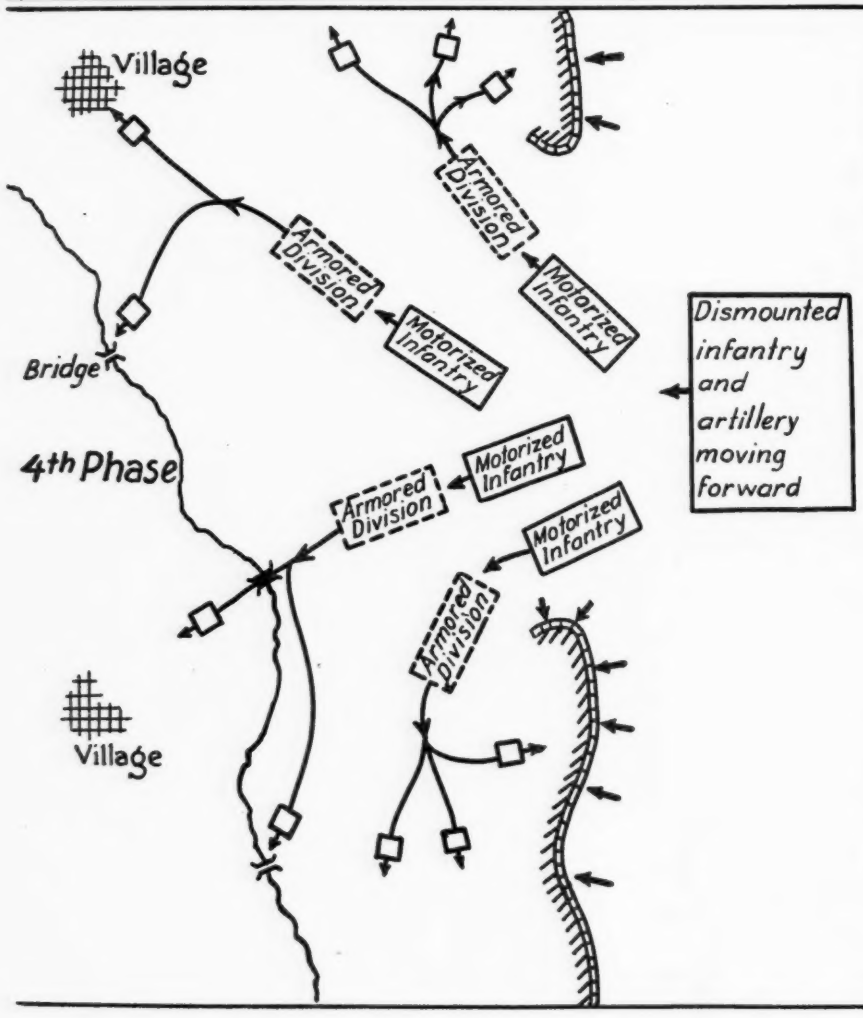
Penetration is made, dive bombers, attack planes and artillery assist infantry, engineers and tanks. Armored force and motorized infantry move forward, ready to go through the gap.



Penetration being widened, enemy reserves being defeated, flanks being rolled further back. Armored force and motorized infantry move nearer the gap. Artillery and air planes still continue intensive attack.



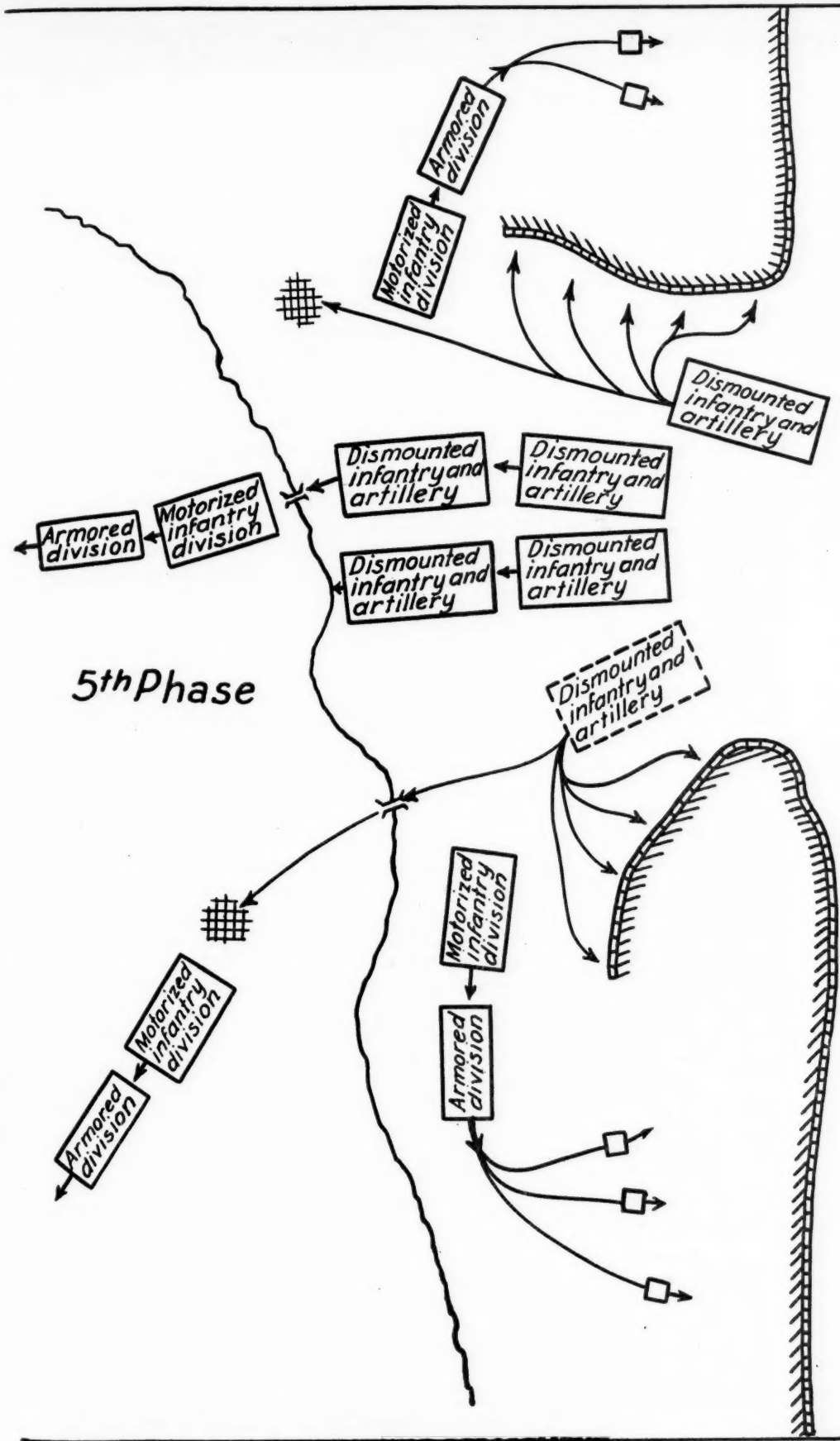
Attack troops still widen the gap and make the going easy for the motorized units. Artillery in position and air planes still continue intensive attack.



Part of armored force assists in following up each flank of penetration.

Motorized infantry follows to assist and hold ground taken until dismounted infantry and artillery take over and consolidate.

Other armored divisions pass on through the penetration to take over villages, bridges, cut telephone and telegraph wires, wreck installations and hold back reinforcements until motorized infantry arrives.



Dismounted infantry takes over flanks of penetration, villages, bridges, installations etc. Armored divisions and motorized infantry move on, take over other towns, bridges, installations, further roll up the flanks of the penetration by moving in rear of them. Part of dismounted infantry and artillery follow the armored divisions and motorized infantry and take over, relieving the latter for further penetration into enemy territory.

WAR DEPARTMENT
LIBRARY
WASHINGTON, D. C.

The Commander and His General Staff

Opening Address by

Colonel Kinzie B. Edmunds, Assistant Commandant, to the Command & General Staff School,

8 February, 1941.

As the Commandant has told you, your mission here is to learn how to be general staff officers. To some extent, also, you will learn to be commanders, for this is the Command and General Staff School, established for the training both of commanders and of general staff officers. We used to spend a great deal of time on the art of the commander, covering such decisions as when to attack and when to defend, what maneuver to use and why. Perhaps we spent too much time on these subjects, with not enough devoted to the practical functioning of the staff, but for the last three years we have been devoting more and more attention to teaching the staff how to do its work. When the directive came to conduct a two-months' course in practical staff work, the instructors were mentally prepared for it. The methods had been developed. There was much hard work still to be done, but not the necessity of readjustment to new methods.

The work of the commander you will get by association. In your applicatory work you will see the process of the commander's coming to a decision and learn why the decision was made. You will not be required to make tactical decisions yourselves or be tested on them. There is no time for this in a two-months' course. You will concentrate on learning to be general staff officers. The training will be as practical as it can be made. You will learn not only *what* is done in a General Staff but *how* to go about doing it in each of the general staff sections. It is the function of the School to teach you this.

All instruction, anywhere or for any purpose, may be divided into three parts: explanation, demonstration and application. Take a very simple case, we will say a noncommissioned officer instructing recruits in how to shoot a rifle. He explains what is done and why—explanation. He goes through the motions himself—demonstration. He requires his squad to go through the motions—application.

The course you will follow employs all these expedients.

Taking the last two first, instructors will go through the functioning of the General Staff in a particular situation before you. That is demonstration. You will then be required to perform these actions yourselves in other situations —application. And it is by application, by the way, that you learn your work, by doing the things yourselves. The other stages are necessary but the last is vital.

Coming back to the first step, explanation, the learning of what is done and why, you get all this by home study, by lecture and by conference. The last two are conducted by instructors, but study is up to you; I would like to say a few words about it. Quoting a former Commandant, General Bundel: "One of the most common sources of grief and wasted effort at this School is inability to concentrate on the matter at hand. Many men do not even realize that they lack this ability. I would suggest that you subject yourself to a rather critical self-analysis to determine if you really have the power to concentrate upon work when you are working and, what is equally important, to utterly divorce work from your mind when you are relaxing or engaged in recreation. If you find you lack the power of concentration cultivate it by all means. It will pay big dividends."

I would add to this some other advice: Budget your time. Get the habit of doing your work at the same time of day, or rather night. Do not overdo. The human brain tires as does any other part of the body. It is capable of just so much. Find your limit, then stop and go to bed even if there is more to be done.

Try to see the meanings behind the words, the principles. Memorizing or parrot-learning will get you nowhere. When you come to applicatory work do not try to remember what you have studied. If you have learned principles they are already in your minds and you will apply them unconsciously. After you have decided what to do you may go back and check your action over with the principles you have learned.

The texts that you use are good. They are the same sources you will have on active service—the Field Service Regulations, The Staff Officers' Field Manual, and other manuals. Most of them were prepared here at the School very recently. They embody conclusions from the latest information we have, setting forth doctrine which is currently believed to be good military practice in view of the latest experience in war. The texts were prepared hastily under pressure from Washington. With more time they would have been in better form and would have showed more polish, but they are, on the whole clear and brief. The instructors who prepared them with much labor and under pressure are worthy of all praise.

Now I would like to present a picture of your objective, to give you an idea of what a General Staff is and why it is necessary. To do this I will go back to a time when there was no General Staff, the period of the Civil War.

At the battle of Chickamauga, Rosecrans, on the defensive, formed his Army of the Cumberland with its infantry, numbering something over 50,000, on a front of about two miles, a line of close columns, each unit shoulder to shoulder in double rank, the whole behind a single line of breastworks. In rear of the divisions was nothing but the various headquarters. Cavalry covered the flanks.

Rosecrans sat on his horse, or stood, on the Widow Glenn Hill about a half-mile in rear of the right center of his line. Here he was beyond cannon shot from the Confederates. He could see nearly the whole extent of his position, although the troops were, many of them, concealed by heavy timber. He could communicate with any of his subordinate units by means of a mounted messenger, receiving a reply in about ten minutes.

Rosecrans did not have a general staff. Probably he had never heard of such a thing, although its rudiments existed in the Prussian Army. If one had been described to him, he might have answered that he did not need it; he could perform all its functions himself. On its face, and considering the simplicity of his organization and dispositions, such an answer would appear reasonable, although, as we shall see presently, the point was debatable even then.

At the present time 50,000 infantry, about the strength of a corps, on the defensive would be deployed on a front of about ten miles. Its entrenchments would extend for nearly a mile in depth from the front line, a maze of fox holes and wire entanglements. Behind it, the artillery would be emplaced to a depth of several miles more. Reserves would be scattered under cover in the artillery area.

All this would be swept by enemy artillery fire.

Cavalry, horse and mechanized, would conduct reconnaissance a hundred miles or more to each flank if no obstacle or troops intervened within that distance. To the railhead, perhaps ten or fifteen miles in rear of the position, all available roads would be congested with supply and evacuation vehicles bringing up ammunition and rations, taking out wounded, exposed at all times to attacks from the air. All command posts would be carefully protected and concealed, communicating with one another through telephone wires laid on the ground, by radio and, if these means failed, by motorcycle and runner.

This contrast may show the reason for the development of the general staff. Armies have grown so intricate that it is impossible for one man to keep himself informed on all details. The general staff helps the commander to command.

Looking backward, we may estimate that this need existed even in the Civil War. Here is an anecdote drawn from that same battle of Chickamauga:

An aide who had been riding the line reported to Rosecrans at the Widow Glenn house. We may guess that Rosecrans said, "Is everything all right?"

"Right enough, sir, except perhaps in the center where there is a gap of about six hundred yards between Wood and Reynolds."

Rosecrans struggled to think. He was under a strain; his army had been attacked for two days by superior numbers. Bragg, his opponent, had been reinforced by Longstreet's corps, sent by rail from Virginia. Brannan's division should have been between Wood and Reynolds, but Brannan had been ordered out of the line some time back to reinforce Thomas, on the left, who had been hard pressed. That had been done with several other divisions.

Rosecrans was under the impression that Brannan's orders had been countermanded. But were they? Evidently not, since the aide did not see him. Actually, Brannan was still there. His division was concealed in the timber and thick underbrush; the aide rode past without noticing it.

Rosecran's weary brain gave up the struggle, "Well, tell Wood to close in."

The Adjutant wrote the order. As it appears in the Records of the Rebellion: *The Commanding General directs that you close in on Reynolds and support him.*

Wood, a good soldier and an experienced commander, received that and hesitated. Had things been as Rosecrans thought they were, the affair would have been simple. Wood would have taken one of his rear brigades and placed it in the gap. But he knew where Brannan was. He knew also that he, Wood, received a peppery reply when, a few days before, he asked for additional information on an oral order. He said, "I'm glad it's in writing this time," (that statement is also in the records), marched his division out of the line, in rear of Brannan, toward Reynold's flank.

Under ordinary conditions, this mistake would have been discovered and corrected in a short time, but in this case there was a coincidence disastrous to the Army of the Cumberland. The time had come for Longstreet to attack. With his usual careful deliberation, he had formed his corps, fifteen brigades* in close column, in the thick timber directly opposite Wood's post. The order to advance was given; the Confederate infantry charged with its customary impetuosity and struck—nothing but a hole. Dana, the newspaper correspondent, who was with Rosecrans, wrote that the valley in front of them suddenly turned grey, and no one knew why.

The entire Union right wing was swept from the field in the utmost disorder. Rosecrans himself was forced to go with it to avoid capture, after trying to reach his left where Thomas, the Rock of Chickamauga, nearly surrounded, held until nightfall, protecting the disorganized mass in his rear.

Would that have happened had Rosecrans possessed a general staff? Hardly. One, G-3, would have kept a situation map and accurate information of every Federal unit. There would have been no need to trust to memory.

Another case: McClellan in the Peninsula in 1862 has gained the reputation of being a timid and vacillating commander. His army far outnumbered Lee's, and a determined advance could hardly fail to clear all tidewater Virginia, including Richmond, of Confederate troops. McClellan advanced slowly and cautiously, calling loudly for McDowell's corps, promised him but later held to cover Washington. McClellan hesitated while Lee gathered more men, summoned Jackson from the Shenandoah, attacked, drove his superior opponent against the James and held him there.

But it is doubtful if any of us, given McClellan's information, and seeing the situation as he saw it, would have done better. The most reliable source of news he had was Pinkerton's secret service. Repeated many times, this told him that Lee's Army was vastly larger than his own. To himself, he must have appeared a model of audacity.

In our own times, an intelligence section of the general staff works constantly and systematically, questioning prisoners, calling for reconnaissance, assembling and evaluating information from all sources. It can, and does, determine every unit of the enemy force, its location, its strength and its condition. It compiles an enemy order of battle nearly as accurate as the situation map of its own force. What McClellan needed was not McDowell, but a G-2.

Again, and this time speaking of the British in the Crimea, a movie a few years ago portrayed the activities of Florence Nightingale. That play, as nearly as we can determine, was historically accurate. It showed the deplorable condition in the British medical service and the mistreatment of sick and wounded by a medical bureau lacking in every need incompetently administered and over which the

*A Confederate brigade at that time was about the strength of one of our present battalions.

commanding general apparently had little control. A bureau is that way; there will be more on this point later.

A fourth section of the general staff would study that campaign from its inception, estimating the needs in supplies and services, seeing that they were provided in advance. During the campaign it would inspect constantly, anticipating requirements, changing installations in accordance with tactical operations and, in the name of the commander, forcing such bureaucrats to do their work.

A commander now puts the details of enemy information, which Rosecrans considered in his own brain, under a man whom we call G-2. The details concerning his own troops, their location and movements, are placed under another, G-3; the details of supply and evacuation are under still a third, G-4. There is another, G-1, who concerns himself with administration, paperwork, reports, funds, replacements, welfare, law and the like. One more, the Chief of Staff, has general charge of the whole. The terms, G-1, G-2, mean simply, First Section, General Staff; Second Section, General Staff. The Chief of Staff, with the four G's constitute the general staff group.

An illustration may serve to show how the system works. Assume that a commander, after having studied the situation, has come to a decision. He calls his staff together and makes an announcement which might go something like this:

"I wish to attack tomorrow at daybreak with the mass of the division in the general direction: Podunk—Ashtown." He will usually add to that certain things for G-2's ear, "I want to know: Will the enemy continue to advance? Will he retire? Will he take up a defensive position, if so, where? Will he reinforce the flank we attack, if so with what?

"Let me have your reports within an hour."

The staff officers then retire and study the situation. When they are ready, they report.

G-2 might say, "It is definite that the enemy will not retire. The information we have of his actions excludes that capability." He gives reasons. "I have prepared the following plan for getting the other information you wish." He gives it.

G-3 perhaps says, "We can not attack at daylight in the direction you wish. It is a physical impossibility for the troops to get into position from their present locations. We can attack two hours after daylight on that line, or we can attack at daylight on the line: Squeedunk—Ashtown . . ."

G-4 may say, "The attack can be supplied. I would like authority to open advance depots and refilling points at such and such places. Our supply of 75 ammunition is limited; a shortage may develop. I recommend that the artillery preparation be not more than fifteen minutes . . ."

G-1 says, "We may expect 800 casualties. I would like to take this up with the corps at once and have the replacements sent in advance to our railhead."

With this information, the commander makes his final decision. The staff again retires and prepares orders *in the name of the commander,* G-2 to the reconnaissance agencies, the aviation and cavalry and to the infantry units in contact with the enemy; G-3 to the troops, including missions, movements, routes; G-4 to the quartermaster, the ordnance officer and other supply persons. If there is time, these orders are submitted to the commander for final approval, but frequently there is not time; he may authorize the staff to issue them without his inspection. However, he retains responsibility for what is done.

The general staff studies and advises. If a general staff officer issues an order, he does so in the name of the commander, not in his own name. He does not operate. G-4, the supply man, for example, does not supply anything. He studies supply in connection with contemplated operations, keeps contact with the quartermaster, ordnance officer and others, plans changes in the supply system and keeps the commander informed of the supply situation.

Having given you an idea of what a General Staff is I would now like to tell you what it is not, to indicate what it may become if it is not watched.

In a modern army a qualified general staff is a necessity. Its thorough training is essential. Lacking the training, there is danger of the substitution of rules and forms, parrot-learned, for reasoned estimates. There is even danger that the general staff may degenerate into that most pernicious body, a bureaucracy. Incomplete knowledge, and the fear of responsibility resulting from ignorance, the substitution of form for reason, the multiplication of parts, dependence on clerks, all lead toward this result.

The signs of degeneracy are not hard to read. When a project is contemplated, do the chiefs all come running with reasons why it can not be done?

Does the organization tend toward endless multiplication of parts and growth of those parts?

Is it difficult to fix responsibility?

Is a decision hard to obtain; is there a tendency to submit all projects to a plebiscite, to create a majority and hide behind it? In a military organization there must be in each unit but one man responsible and one man who decides. He may call for information or for evidence, never for a decision.

Do the sections fight one another, each one striving for more power? Do they indulge in "log-rolling"—"You back my project and I'll back yours?"

Do all complain of being overworked? Do they make profitless work for one another?

These and others are symptoms. Should they appear, it is time for some strong man to wield the ax.

Modern warfare calls for commanders and staff officers with "streamlined" brains as well as it calls for streamlined divisions.—Lt. Col. Victor W. B. Wales in lecture on the armored Division delivered, at the C&GSS.

World War II

The War in Africa

By Colonel Frederick M. Barrows, *Field Artillery*

Libyan Campaign

Three months ago, when the *Military Review* went to press (early in December), the Italian Army, after advancing slowly (because of British resistance), had penetrated some seventy miles into Egyptian territory with its advance elements between Sidi Barrani and Matruh and General Graziani had been "since mid-September, cautiously consolidating his coastal positions, for he was fully aware of the vital importance of a well-organized supply system in a desert theater of operations." To continue on into Egypt with Alexandria and the Suez as his goal would mean a long and difficult supply system, subject to bombardment by air and sea, and the possible landing of a British expeditionary force supported by the navy at some weak point in his line of communications. Therefore, all the towns along the route had to be garrisoned and fortified as strongly as possible. In addition to this force invading Egypt, the Italians had conquered British Somaliland and had seized posts beyond the Abyssinian frontier. To judge from outward appearance things did not look bright in the Near East for the future of the British Empire.

Such apparently was the picture around the eighth of December. However, all was not what it seemed to be, for General Wavell and his able assistant, General Wilson, had conceived the idea of turning the tables, and with the greatest secrecy had prepared for a Libyan Blitzkrieg that resulted in driving the Italians out of Egypt back some six hundred miles along their line of communications. So great was the power and speed of the British drive, one marvels that such was possible in a desert country. The surprise attack on Sidi Barrani began 9 December ending with its capture 11 December. In rapid succession the British forces moved westward, capturing in turn: Solum, 16 December; Bardia, 5 January; Tobruk, 21 January; Derna, 30 January; Bengazi, 6 February; Agedabia, 8 February; El Agheila, 9 February.

Nothing since the beginning of World War II, a year ago last September, has boosted British morale or given them greater courage to fight on as has this brilliant Libyan campaign. In this Blitzkrieg with an English accent, over 120,000 Italian prisoners have been captured, this number not including the killed in battle.

When one considers that General Wavell had to do without a large part of his air force needed in helping the Greeks in Albania by continual assaults on Italian harbors, forts, communications, reserves, and airdromes, the achievement in Libya looms even greater.

This British Army was really a polyglot force composed of Britains, Australians, New Zealanders, Canadians, Indians, Poles, and Free Frenchmen.

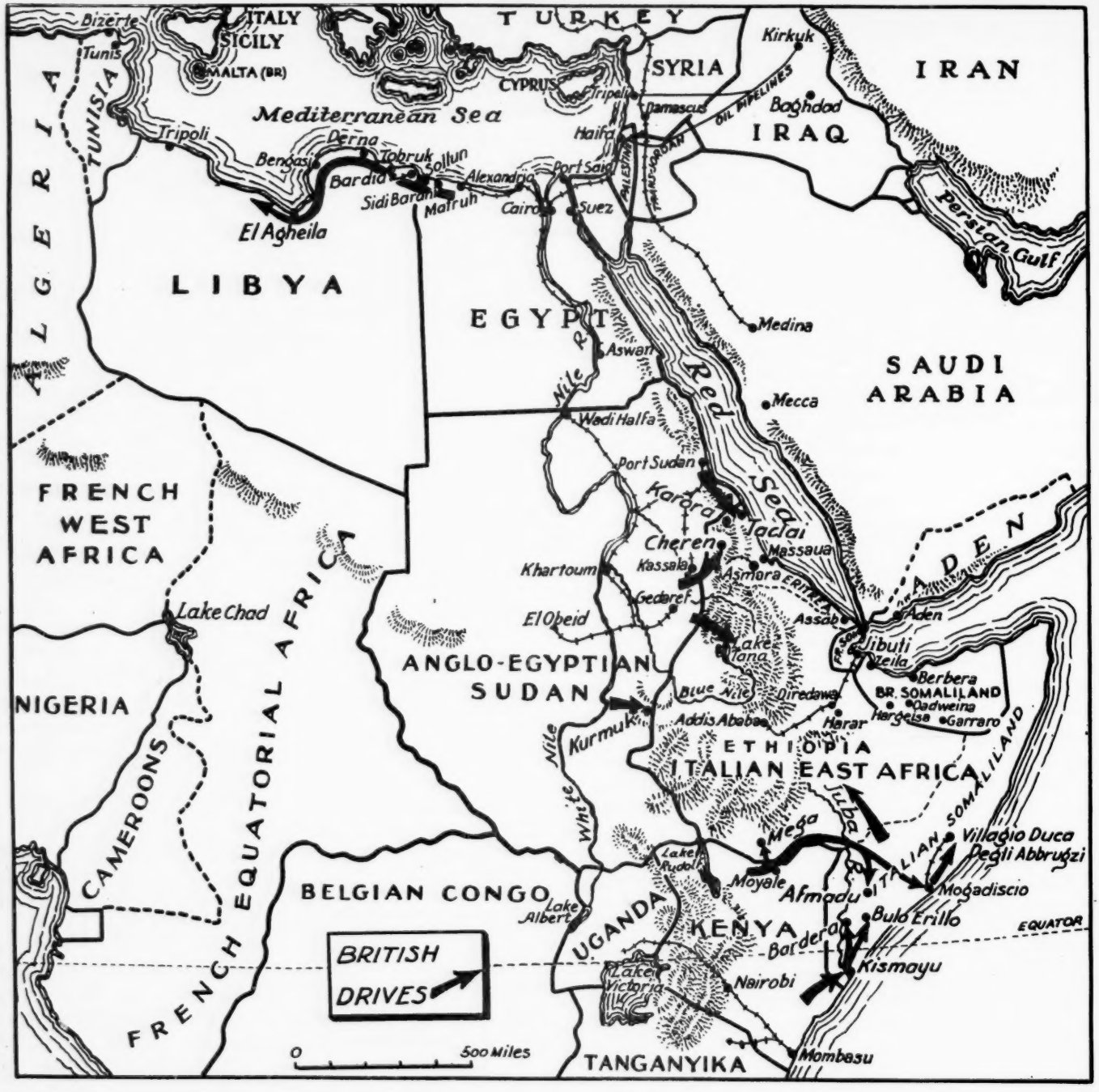
While it is not known as yet, what was the strength of the opposing forces one might say, roughly, that Marshal Graziani had available in northern Africa some 250,000 men, the British in northern Egypt for the protection of Alexandria and the Suez around 200,000, the Italians having between 60,000 and 75,000 in Sidi Barrani and vicinity, the English some 60,000 around Batruh. These figures are merely estimates due to both sides not wishing to divulge their strength.

This campaign is one in which the principle of war "Surprise" was illustrated almost perfectly, because the British were active for days in its preparation, misleading the enemy as to their intentions, bringing up supplies at night and camouflaging them from aerial observation. For such a campaign large stores of ammunition, food and fuel were needed and they had to be brought well forward to make supply easier and quicker. To show how well "Surprise" was carried out, the Italian officers when attacked at Nibeiwa on 9 December, were, the report goes, still at breakfast, with the men in their tents and with the tanks in their park. This hardly seems possible, though is evidently so.

In general the British maneuver for the capture of a town was the simultaneous bombardment of the fortified area by guns from the navy, dive bombing and machine gunning from the air and artillery bombardment from land, and, very important, protection of British forces from Italian air attack. As this was in progress the British tanks, infantry and engineers "dealt directly with the Italian defenses of the town," while the armored force made a wide encircling movement to cut off the enemy and attack him from the rear. Completely surrounded, their retreat cut off, and with bombardment from the land, sea, and air, the Italians, after sometimes prolonged and other times, short resistance, surrendered. Such was what happened on the British march westward, delay being caused from time to time to keep the supply problem well in hand.

In order to get a picture of what really happened in the capture of the town, it is believed a description, in detail, of the capture of Sidi Barrani will be of advantage. Although no two reports, so far received have been the same, the following, it is believed, will give a fair picture of this particular engagement.

Frequent training maneuvers by the British forces and General Wavell's "much-advertised and photographed trip to Crete to inspect the British troops landed there" did much to prevent the Italians from suspecting an offensive in northern Africa. The plan was well conceived, bold, and adroitly executed. At Maktila (see accompanying map) was an Italian outpost some fifteen miles east of Sidi Barrani. South

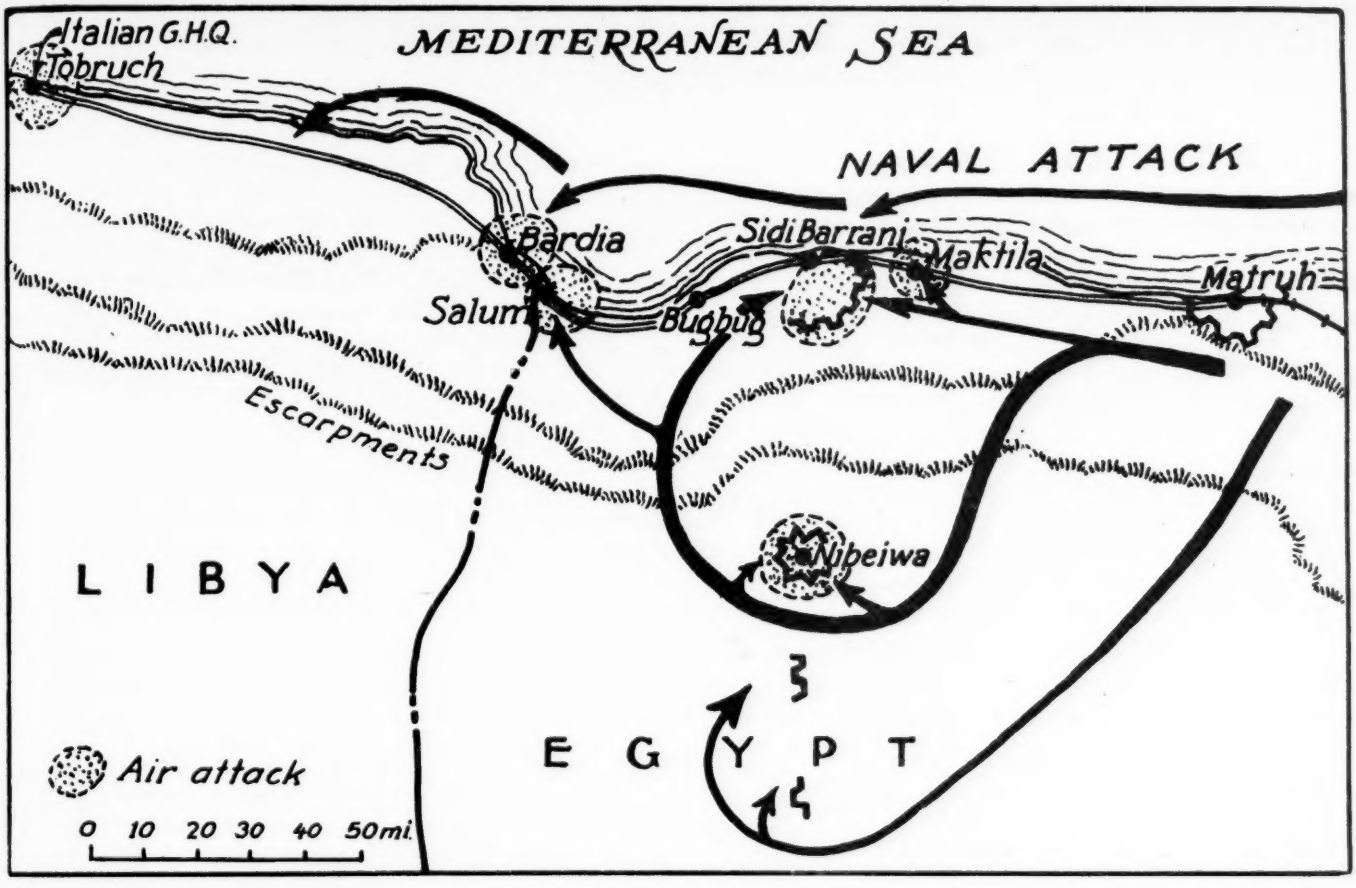


of Sidi Barrani was the fortified town of Nibeiwa and between these two were the Tommar forts (not shown on the map). The movement westward started from Matruh which was about sixty miles from Maktila. Due to a complete surprise by the British, Maktila was quickly overrun and then a frontal attack was made on the Italian fortified camp directly south of Sidi Barrani. At the same time another attack was made on a large camp nearer the sea. Both of these were successful. While these attacks were going on, an armored force attacked Nibeiwa and the strongholds south of it, then captured the Tommar group and passed on in a wide encircling movement to Bug Bug about twenty miles west of Sidi Barrani and cut off the retreat of the Italian forces in Sidi Barrani. Some reports say that a part of this force turned northward to assist the frontal attack from the south. Thus, surrounded on three sides by the land forces, on the other by the navy, and from the air by the R.A.F., the defenders of Sidi Barrani had no other choice but surrender, which they did.

In Sidi Barrani, Maktila, the Tommar forts, Nibeiwa and the other forts thereabout were, it is estimated, some 75,000 men, the majority of which were captured or killed. Practically all the tanks, motor vehicles, cannon, ammunition and supplies of all kinds were captured.

Such in varied form was what happened as the British marched triumphantly westward from town to town, stopping only long enough to insure their line of communications.

Among the reasons for success in this campaign can be listed: proper planning and leadership, complete surprise to the enemy, "celerity of execution," defeat of the



enemy in detail, "cooperation" by land, air and naval forces, and one must not forget the offensive spirit. Also, the attack was delivered at the moment when the 2d Blackshirt Division in Sidi Barrani was in the process of being relieved by the 4th Blackshirt Division, always an embarrassing moment for the defense. The navy was a great help because it permitted: (1) Successive establishment of sea bases with short land lines of communication thereto; (2) Relieving the land forces of the Italian prisoners—a great drain on any army; (3) Supply, evacuation and reinforcements over much shorter lines; (4) Interruption of Italian communications with Italy; (5) Naval fire support in most battles—the Italian positions being on the coast.

Wide World Photo.

GENERAL WILSON

History alone can tell what place Wavell's Libyan campaign will have in its "niche of time." It may in later years be listed as one of the decisive battles of history, perhaps it will be "lost in the mists of antiquity." At any rate it came when England needed it most and boosted her morale when it was indeed at a very low ebb.

Due no doubt to her extended line of communications and the necessity of strengthening it, to the greater need of much of the Egyptian R.A.F. to aid Greece and the possible use in Greece of some of the Libyan and Egyptian land forces, the Libyan campaign came practically to a standstill around the middle of February. Later events in Greece will probably tell the story of its future.

EAST AFRICA

Early in March, Great Britain announced the capture of Italian Somaliland, a territory comprising nearly 200,000 square miles, a coast line of over 1,200 miles and a population of about 1,200,000. Most of the British troops employed in this venture were from Rhodesia and the Union of South Africa. They entered Italian Somaliland

from the British Colony and Protectorate of Kenya, which lies just to the west. Though of an entirely different nature, the capture of Somaliland, due to the road situation, lack of water and extent of territory traversed, compares very favorably with the Libyan campaign as a brilliant achievement. Also, it is the first colony to have been captured in its entirety from the Italians. While Italian Somaliland is not a rich country it is quite important from a military standpoint in that it has ports that harbored raiders that preyed on British traffic at sea. Strategically it offers a natural approach for the reconquest of British Somaliland which lies just north.

British and Free French troops, moving southward along the Red Sea coast from Anglo-Egyptian Sudan entered Eritrea, the small Italian colony just north of Ethiopia, and so, early in March a large part of that colony was in British hands.

Indications are, as we go to press, that it will not be long before Ethiopia will be lost to Italy as it is being entered by the forces of the British and those of Haile Selassie from the east and west and is being harassed from within by Ethiopian insurgents. With the capture of Eritrea in the near future and also the recapture of British Somaliland, both of which look promising, Ethiopia will be completely surrounded and its surrender inevitable.

All in all, the campaign in East Africa has all the appearances of success and Italy's empire in that part of Africa seems rapidly to be folding up.

The Balkan Theater

By Lieutenant J. J. Gleason, *Infantry*

The Italian war machine, which rumbled impressively out of Albania into Greece last October, lost momentum with amazing promptitude and has been operating more or less in reverse gear ever since. The Greeks, trained to utilize in full the defensive advantages of their mountain barrier, proved to be tenacious fighters from the outset.

Not content merely to stand their ground, they took the initiative early with a counter-drive against Koritza, supply base of the Italian left wing. Koritza fell on 22 November, 1940 and the Greeks struck northward to Pogradec, with the purpose of later swinging northwestward to reduce the inland bases of Elbasan and Tirana and the seaport of Durazzo.

Holding temporarily in the other sectors, they were so successful in stalling the Italian attack all along the line that by mid-November sweeping Greek counteroperations became feasible. Accordingly, on 14 November the Greeks opened a smashing counterattack along a one-hundred-mile front. The offensive developed into a triple-pronged thrust toward Porto Edda, Argirocastro, and Tepeleni. Greek and R.A.F. attack aviation cooperated with artillery, cavalry, tanks and infantry to apply the pressure, with the result that by 1 December the Italians were in retreat in all sectors.

Porto Edda, vital Italian disembarkation point, fell to the Greeks on 6 December. Three days later Argirocastro, the last Fascist base in southern Albania, was taken. Tepeleni still held out; but by the end of the first week in December one-fifth of Albania was in Greek hands and the Italian invaders, hammered without respite, were being pressed steadily backward.

The vital port of Valona became the next objective of the Greek coastal column, which took Khimara on 23 December; and Tepeleni remained a primary objective of the offensive in the central area. Italian defense, however, by Christmas had stiffened on both the coastal and central fronts, while bitterly cold weather and blinding snowstorms set in which well-nigh paralyzed offensive operations, especially in the Tepeleni—Klisura sector.

The Greeks, nevertheless, inched their way tirelessly up the coast and northwestward from Lake Ochrida toward Elbasan, turning back Fascist counterattacks with little

trouble. Greek artillery pounded Tepeleni, to which the Italians clung determinedly, and R.A.F. bombers lashed at Valona in an effort to break up sea communications to that port.

Winter weather, growing still more severe, continued to immobilize the contending forces through the month of February 1941, the upshot being that the Italian line of resistance became more or less fixed, running northeastward from the coast at a point south of and near Valona, then looping southeastward into a salient with Tepeleni as its apex, thence running due north to a position near Elbasan and from there eastward to Lake Ochrida.

Late in February the Greeks reported a total of about 100,000 Italians "put out of action," including 20,000 prisoners. Other Italian losses listed were 130 airplanes and $7,000,000 worth of other equipment, among which were 130 artillery pieces, 1,500 light mortars, 700 machine guns, and large quantities of rifles, munitions and other supplies.

With the advent of March 1941, the German shadow begins to fall across the Balkan military scene. Nazi forces are concentrated in large numbers in Bulgaria all along the Greek border, presumably to be used for a blow to knock Greece out of the war. Analysts predict that, should this German threat develop into action, General Papagos will meet the Nazi attack by surrendering the coastal strip east of the Struma River and defending in the right-angled bastion formed by the Struma River and the Greek-Bulgarian border to west of the Struma. This border stretch constitutes, it will be remembered, part of the original "Metaxas Line" and the Struma is backed by mountain ramparts. Such strategy would leave the Germans a choice between attempting to force a highly compact and well-organized defensive position or turning their attention to Yugoslavia in order to engineer a stroke over the Greek-Yugoslav frontier to the westward.

A German attack, it is pointed out, would leave the German left flank exposed to a possible Turkish drive from European Turkey; but the problem is confused by a lack of information both with respect to Turkish offensive strength and Turkey's willingness to act at all until such time as Nazi eyes turn definitely toward the straits. Russia, also, is a factor to be borne in mind, lying, as she does, athwart Germany's line of communications into the Balkan area.

The Battle of Britain

By Captain O. C. Michelmann, *Infantry*

The Battle of Britain has moved into its eighth month and the British remain undaunted. Even with air raids almost daily, with threats of an intensified U-boat campaign and an expected Spring invasion—chins are up in Britain.

An increasing new courage is found in some of the English winter activities; these in addition to the successes in Africa. In the air, the British have been steadily moving toward superiority over the Nazis due to more experience and improved fighting methods, to a gain in the quantity as well as improvement in the design of planes of their own production and to the gain resulting from the planes steadily arriving from the United States.

In order to make good use of air infantry when it may be needed, the English gave evidence of employing them at the proper time and place, having tried them out on a small scale when British parachutists landed one day last month to cripple railroad traffic in southern Italy.

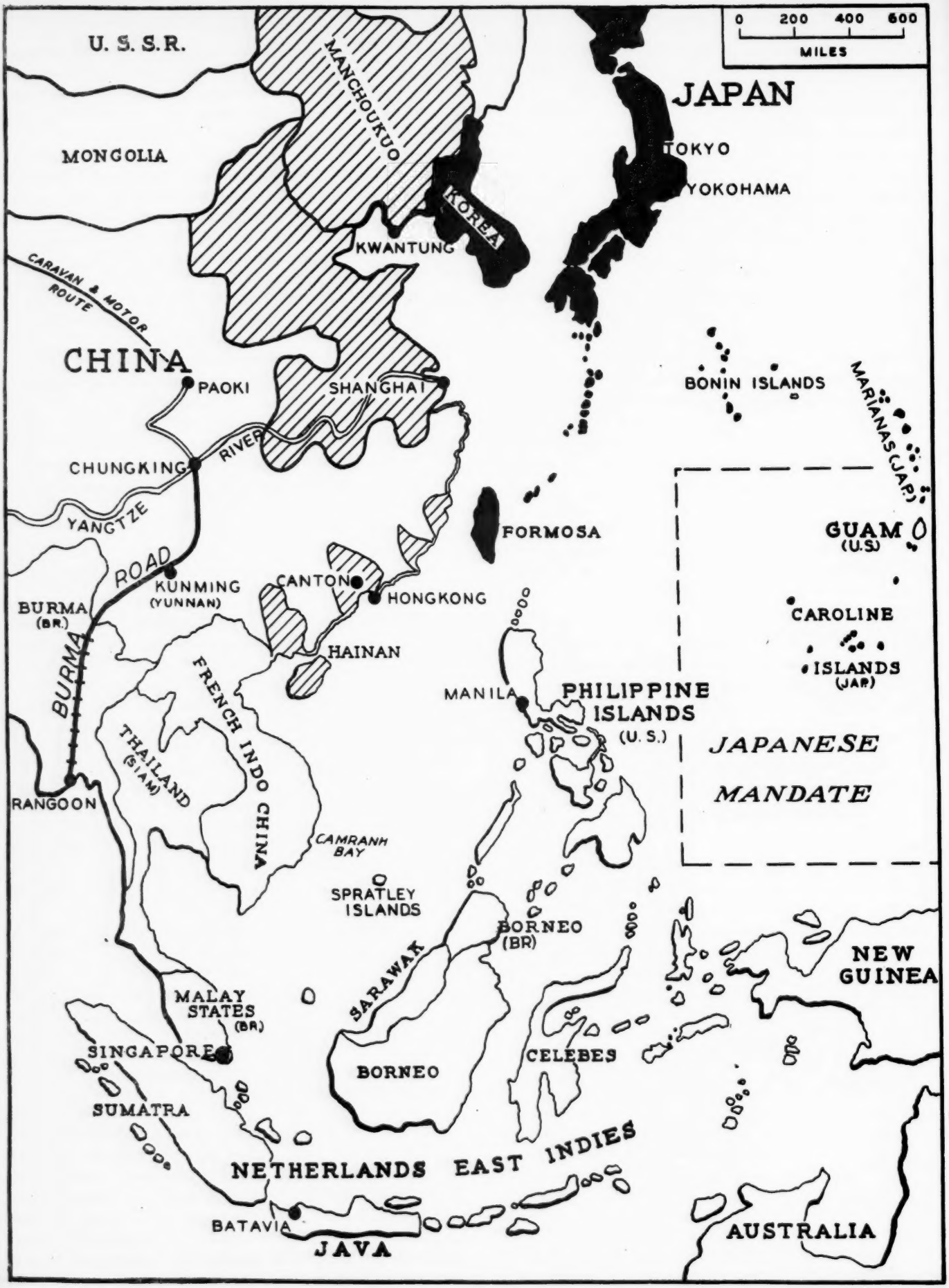
Remembering what happened in France when fleeing civilians clogged the roads so badly needed for military purposes, the British are studying this problem and have staged their own "sham" invasion of England. While it was called successful, it was admitted that this test proved "refugees" a "disturbing factor."

In the air, the Royal Air Force has from all indications kept busier as each month passed. Not content in coping with hostile aircraft over England, it has taken the offensive almost daily without interruption on the Continent—over Germany, German-occupied France, Norway and generally over the "invasion coast" along the Channel. In addition to the tremendous use made of the RAF in defense and in carrying on raids from home, it is to be borne in mind that at the same time extensive use has also been made of it at great distances from home. The air force has been effectively helping the Greeks in their Balkan campaign, defending bases in the Mediterranean and cooperating with the Army of the Nile in Egypt and Libya. East African successes too have owed much to the cooperation of the RAF. Besides all this, the RAF has found time for bombings in Italy, on hostile bases, and on ships throughout the Mediterranean. In addition to all the above uses of the RAF, the air strength at Singapore has been materially increased.

Typical among the air attacks of the RAF in recent months are those launched against the U-boat base, at Bordeaux; the naval shipping yards, at Kiel; the Royal Arsenal, at Turin; the naval base docks, at Brest; and, at Cologne, where fires were set to wharves, oil depots and transportation objectives. The British have confined their air raids to military objectives.

As a result of the fire in the city of London caused by the night incendiary bomb raid of 29 December, the government made part time defensive work compulsory for all British civilians to prevent the spread of fire from incendiary bombs. With thousands of bombs dumped on historic spots, the resulting conflagration was declared the worst since the great London fire in 1666. On New Year's night, the RAF paid a retaliatory visit to Bremen shipyards, docks, rail yards, oil refineries, and an aircraft plant.

Britain continued to hold control of the sea throughout the winter in spite of increased enemy submarine activity. While British, allied and neutral losses were running an average of some 60,000 tons a week, British submarines and surface raiders were sinking German ships. Cruisers and fast motor boats were keeping the Channel clear. In the Mediterranean, the British fleet took an active part in the Libyan campaign and has been of inestimable value to the troops in all of Africa and to their Grecian allies.


0 200 400 600
MILES
U. S. S. R.
MANCHOUKUO
JAPAN
MONGOLIA
TOKYO
YOKOHAMA
KOREA
KWANTUNG
CARAVAN & MOTOR ROUTE
CHINA
PAOKI
SHANGHAI
BONIN ISLANDS
MARIANAS (JAP.)
CHUNGKING
RIVER
YANGTZE
FORMOSA
GUAM (U.S.)
ROAD
KUNMING (YUNNAN)
CANTON
HONGKONG
BURMA (BR.)
CAROLINE
ISLANDS (JAP.)
HAINAN
MANILA
PHILIPPINE ISLANDS (U. S.)
BURMA
FRENCH INDO CHINA
THAILAND (SIAM)
JAPANESE MANDATE
RANGOON
CAMRANH BAY
SPRATLEY ISLANDS
BORNEO (BR)
SARAWAK
NEW GUINEA
MALAY STATES (BR.)
SINGAPORE
CELEBES
BORNEO
SUMATRA
NETHERLANDS EAST INDIES
BATAVIA
JAVA
AUSTRALIA

The Far East

By Colonel Frederick M. Barrows, *Field Artillery*

Around the end of September the Nazi-Fascist-Japanese pact told us formally that their aims were as one in the creation of a new world order. With the exception of resorting to a few diplomatic maneuvers, minor engagements between the Chinese forces and those of Japan, and a few Japanese incidents, the situation in the Sino-Japanese War, as 1941 came into being, was essentially the same as of last September.

Foreign Minister Wang Chunhui of China, in his New Year's message, spoke of the continued sale of war materials to Japan. He said that "once this source is cut off, their whole machine will collapse. I am happy to say this appears to be the trend in which events are moving."

Since the first of the year Japan has made a considerable effort to liquidate the Chinese forces in southeastern Shansi with doubtful success. Japan has also raided various South China cities, especially Kunming and Chungking, the capital, and bridges along the Burma Road, the reports concerning the blocking of the Burma Road being so contradictory that it is impossible yet to tell whether Japan has succeeded partially, entirely, or at all.

Due to the appointment of Baron Hiranuma, an outstanding fascist, as Minister of Home Affairs, and of General Yanagawa as Minister of Justice and other changes in the political structure, such as the "dissolution of all existing political parties," Japan appears to be leaning more than ever in the direction of Totalitarianism. Admiral Suetsuga in the latter part of December before the Imperial Rule Assistance Association stated that it was necessary that Japan establish a "new synthetic economic structure in which private property would take a subordinate place in the needs of the state." He also said, "In this country, the Emperor is everything and everything belongs to the Emperor."

Slowly but steadily, with the eyes of the New World looking toward Europe and the Allies too busy to cast more than a glance at the Far East, Japan has continued her unabated march southward.

The Thailand—Indo-China War, Japan's mediation of the struggle, and the recent concessions in the form of air and naval bases, are viewed by many writers as indicating a southward trend in Japanese activity toward Singapore and the Netherlands Indies.

Let us take a glance backward a bit to see what has happened in the last fifty years: 1895, Formosa; 1905, Kwantung; 1910, Korea; 1931-33, Manchukuo; 1937-40, Japanese occupied China, including practically all coastal towns; 1939, Hainan Island and Spratley Islands; 1940, Japan's extension of her sphere of influence in the direction of Thailand (Siam) and French Indo-China.

In addition to the Thailand—Indo-China incident several speeches by important Japanese statesmen have not created a favorable reaction on the part of powers other than the Axis. Prince Konoye, Japan's Premier, said among other things, the people of Japan should be prepared for the worst situation that can arise. Foreign Minister Matsuoka at the same time informed the foreign powers "if they wished to minimize their losses they should withdraw all aid from Chungking" (the Chinese capital). Among other reactions to these speeches were Great Britain's announcing the opening of the Burma Road and Canada's banning of shipments of copper to Japan.

Japan's strained relations with other-than-Axis powers seem to be in part due, as some writers say, to her apparent denial that they "share on equal terms in the trade of one-quarter of the world."

Japan, in spite of the statements of Konoye and Matsuoka, apparently has modified her course, probably as a result of actions of the non-Axis countries, and it might be stated that she has modified them to the extent that she preserves the right to decline to join the Axis in conflict should it suit her if the occasion arises.

There is no doubt that the situation in the Far East is an ever-present tinder-box and that "an act of desperate or deliberate strategy by Germany" might decide Japan's course. However, Italy's jump when she felt assured the time was at hand, and her present plight in Albania and Northern Africa might cause Japan to pause and think, no matter how tempting the bait might be.

The appointment of Admiral Nomura as Ambassador to the United States is apparently an excellent choice. Nomura knows this country well, having been educated here.

It is said that Russia is still the unknown quantity in the Far East as she also is in Europe. Around the middle of January Chinese Communistic forces fighting with Chiang Kai-shek asked that they be allowed to move from the barren northwestern provinces to the fertile valley of the Yangtze, their reason being that they could better bring into play their guerrilla warfare. They also asked for more representation in the Chinese Government. Logical as these requests appeared on their face, the question with Chiang Kai-shek is just how much interest have these Chinese communists in saving China from Japan and how much are they fighting really in the interests of Russia. He is, as one might say, "on the spot." He does not wish the communistic forces to become too strong and at the same time does not wish to antagonize Russia for fear she would come to an understanding with Japan: in which case her main source of war supplies would be stopped and the Chinese communists might turn against her. Russia, as one writer says, is sitting in the driver's seat, playing a waiting game, letting all belligerents, both in the Far East and in Europe, wear themselves out. Chiang Kai-shek's policy with his communist forces seems to be to give them just enough arms and munitions to keep up their guerrilla warfare but not enough to carry on any extended fight should they turn against him.

Before taking up the situation so far as Singapore and the Netherlands Indies are concerned, it is well to remember that China and Japan have been fighting their undeclared war for almost four years. This is very exhausting on Japan, in manpower, resources and money. It is wearing on the people at home and many reports say it is not at all popular with a great part of them. It is said that China has around 5,000,000 men in her army, is organizing her country industrially and ties up some forty to fifty per cent of Japanese land forces and probably fifty to seventy per cent of the air and some of her navy. China in spite of all obstacles against her does not appear to be getting any weaker. In fact, China seems to be getting stronger and the reason is extremely interesting. Chinese industrialists, manufacturers, artisans, technicians, mechanics, factory workers of all classes, because of the occupation of all China's seacoast cities and many other important cities in Japanese occupied China, in other words, industrial China, have been driven into the interior. This fact is revolutionizing interior China, asleep for centuries.

The Chinese Government has made Rewi Alley, a New Zealander, chief adviser of the Chinese Industrial Cooperatives which in sixteen months has grown to a system of 2,400 factories scattered over 16 provinces. This Industrial Cooperative's organization is called *Indusco*, a combination of the two words. It reaches from just behind the fighting line deep into China. According to the *Saturday Evening Post*, Alley's solution is a new type of production, fitted both to wartime needs and to the social structure of China. . . small decentralized industry spread over the towns and villages instead of concentrated in the cities, industry in which labor and capital could really work together. . . . to win the war, also peace.

Alley believes Indusco can "combine speedy wartime reconstruction, productive refugee relief to supplant soup kitchens, the training and spiritual mobilization of labor, and a means of quickly opening up the hinterland to defense against conquest."

With necessary backing, the *Post* goes on to say that Alley promises Indusco can eventually make China's guerrilla armies self-sufficient in light arms. The workshops, he hopes to increase to 3,000. Measured against the emergency needs of its own people, the *Post* says that Indusco looms large. Judged against difficulties already overcome, the experiment stands as an indication of a people's readiness to "fight on forever."

So as we approach Singapore and the Netherlands Indies we see that Japan and China are busily engaged in China and will be for some time to come, perhaps years.

The oil situation is not an important factor with China but it is with Japan, as she produces no more than ten per cent of her requirements. The Netherlands Indies are practically her only oil source in the Far East, exporting as is said, around 50,000,000 barrels a year. Roughly, Japan needs 25,000,000 barrels for her needs other than for war purposes. Around two-thirds of her requirements have been filled by sources other than the Netherlands Indies but export licenses, banning shipment of high grade aviation gas, have made her oil problem difficult.

Japan has other problems regarding her imports, the principal ones being her inability to receive them from her axis partners and the limitations imposed in other cases upon exports to her of strategic raw materials. She must have oil, iron, copper, machinery, cotton and other strategic articles. For example, either all or the bulk of the following are imported: scrap iron, coffee, tin, manganese, aluminum, tungsten, nickel, rubber, mineral oils, wool, wood pulp, hides, leather, jute, etc.

Thailand and Indo-China have together: coal, iron, fish, coffee, tin, rubber, phosphates, zinc, tungsten, cotton, tea, rice, gold, sugar, manganese, naval bases, harbors, air bases. Kamranh Bay, on the southeast coast of Indo-China has an excellent natural harbor.

Thailand and Indo-China are not small countries as together they have about 500,000 square miles or as much as the combined square mileage of the following: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Pennsylvania, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida. Their combined population is in the neighborhood of 33,000,000.

One might say that Thailand and Indo-China bear to Japan somewhat the same relationship, if such word could be used, as do Rumania and Hungary to Germany.

The Netherlands Indies have: rubber, gold, oil, tin, sugar, coffee, spices, manganese, tea, quinine, palm oil, rice, naval bases, air bases.

The Netherlands Indies are even larger than combined Thailand and Indo-China, containing over 733,000 square miles, or over ninety times as large as the state of Massachusetts. The population is around 60,000,000.

Singapore stands at the gateway to the Orient and is the bottleneck that controls practically all trade from the West and Europe. The world generally looks upon Singapore as the protector of the Netherlands Indies. Its garrison and those in the neighborhood are said to be about 100,000. It is *the* naval base of Great Britain in the Far East and its harbor could hold, so the report goes, all the naval ships of the world. It is also an air base of considerable moment. As long as Great Britain can hold Singapore she is master in that part of the Far East.

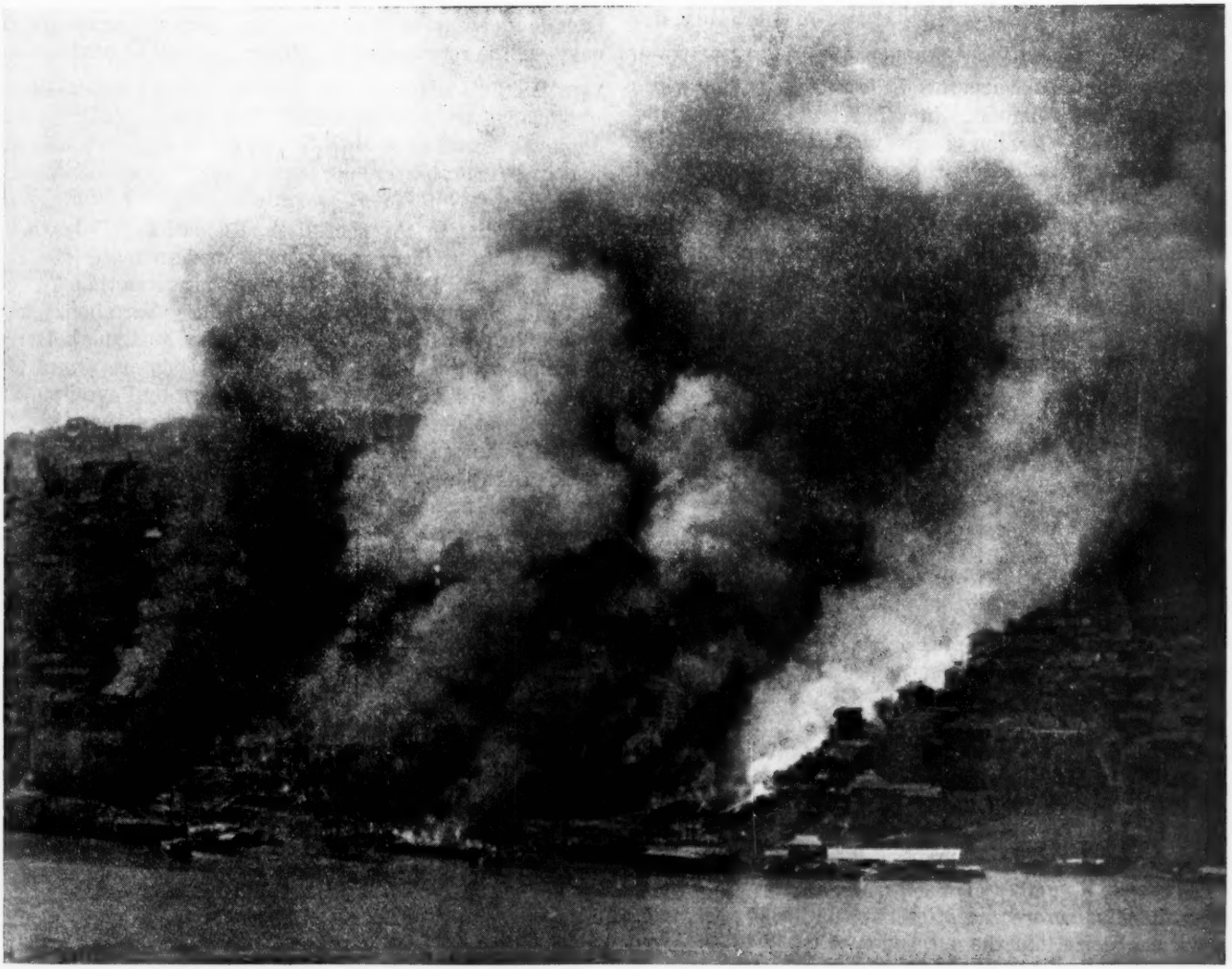
Regarding Singapore, Hector Bywater, according to the *New York Times*, states: "If Japan ever decided to fight the British Empire it is likely she will lay plans for a sudden overwhelming assault on Singapore, knowing that with this great fortress reduced the game will be in her hands. Compared to the invasion of Australia, the conquest of Singapore will be a simple operation. As the objective for a first great blow, it might be irresistible."

Distances in the Far East are both interesting and enlightening. From the lower tip of Thailand to Singapore is around 300 miles; from Kamranh Bay in Indo-China to Singapore, 800 miles; Singapore to Spratley Islands, 800 miles; Singapore to Hongkong, about 1,500 miles. The Japanese Mandate is directly above New Guinea.

If one looks at the accompanying map of Singapore and the Netherlands Indies, one can see the strategical position of Japan in the Far East, with bases in the Japanese Mandate, Spratley Islands, Hainan and her relations with Thailand and Indo-China. What will happen in that area only the future can tell. While it is not definitely known what forces can be brought against Japan, should she step southward, yet, taking into consideration the naval and air forces

of Netherlands Indies and Great Britain (including India, Australia and New Zealand) these forces are quite considerable; but they are not intact as in the force of Japan. The latter would be the only one knowing where she would strike —a very valuable asset. However, it must be remembered that Singapore is as far from Japan as the coast of Spain is from New York. Rather a long line of communications. In this connection, Japan has massed considerable force of navy and army at Hainan and vicinity, whether for operations in southern China or southward is problematical.

In the last issue of the *Review* this statement was made: "the Sino-Japanese stalemate may be decided by the outcome of the European conflict. The Chinese, despite their loss of territories and heavy casualties, appear willing and able to carry on. The Japanese, unable to impose their will on the enemy, may have to be content with trying to protect what they have gained." Since the foregoing was written, the Thailand—Indo-China—Singapore—Netherlands Indies situation has arisen. Will the outcome of the European War decide it? Who knows?



VIEWS OF THE FIRE IN CHUNGKING, THE CHINESE CAPITAL, RESULTING FROM JAPANESE INCENDIARY BOMBS *Wide World Photo.*

MILITARY NEWS around the WORLD

BY LIEUTENANT J. J. GLEASON, *Infantry*

ARGENTINA

Ships Seizure Contemplated:

Argentina is reported studying an ancient doctrine of International Law known as the "Rule of Angary," by which Italy in 1915 before her entry into the First World War, justified seizure of 34 German vessels lying in her harbors. The logic runs that a nation has the right to use idle shipping available in its harbors when confronted with a national emergency. The good fortune of Brazil, which picked up 42 German ships in the last war, has not been forgotten. Sentiment is growing in Buenos Aires to apply the "Rule of Angary" to four Danish vessels which are lying in the harbor. Should this be done, it seems certain that other belligerent vessels, anchored through South America, would suffer the same fate. The "Rule of Angary" demands full compensation for seized ships; but it seems doubtful whether much money could change hands today in view of the war restrictions.

(*The Hemisphere*)

BELGIUM

New Sources Exonerate Leopold:

An elaborately documented defense of King Leopold is the publication issued on December 5, 1940, by the Belgian-American Educational Foundation. "The Belgian Campaign and the Surrender of the Belgian Army—May 10-28, 1940." This eighty-five page document contains an introductory summary by Herbert Hoover, who is chairman of the foundation. There are articles by Paul van Zeeland, John Cudahy, and a score of other Belgians and Americans, including the American naval and military attaches to Belgium at the time. There are also a number of memoranda and letters written during the days before and after the surrender. All these, briefly, emphasize that the surrender of the Belgian Army was inevitable, and that Britain and France had ample warning of Leopold's decision.

(*Events*)

BRAZIL

Air Ministry Created:

An Air Ministry has been created in Brazil, and Joaquim Pedro Salgado, Jr., has been appointed First Air Minister by President Getulio Vargas. The Air Minister will have supervision of commercial and private as well as military aviation.

The new department has long been desired by the Brazilian armed forces, but its creation has heretofore been postponed until a formula could be worked out satisfactorily to both the army and the navy. Although the First Air Minister is a civilian it is believed that both the army and the navy will be represented by officers serving as advisers.

(*Foreign Press*)

BULGARIA

Artillery Re-equipped:

According to "Artilleristische Rundschau," Bulgaria has re-armed its artillery, partly with modern materiel.

At present the Bulgarian Army has more than 78 light batteries, including three horse artillery battalions; more than 74 heavy batteries; and a number of antitank batteries. The motorized batteries of a mobile division are armed with 149-mm M-14 Ansaldo howitzers, drawn by Pavesi movers.

For antiaircraft purposes the 20-mm automatic L/70 Oerlikon gun and the 20-mm L/60 M-33 Madsen gun are used. Both these guns are also employed for antitank defense. The firing speed of the Oerlikon is 170 rounds per minute; its horizontal range is 5,000 yards; its vertical range 3,500 yards. With a normal hit its shell will penetrate armor 40-mm thick, and at a 60 degree angle of incidence will penetrate 30-mm armor.

The Madsen gun, which was used in Spain, fires a shell weighing 128 grams. The muzzle velocity is 900 yards per second. The armor-piercing tracer shell penetrates chromo-nickel steel armor 30-mm thick at 500-600 yards.

An 80-mm antiaircraft gun is also used. This gun, with its sound-ranging equipment and searchlights, is drawn by a Pavesi mover.

(*Krasnaya Zvyesda*)

CANADA

Military Maps by Wire:

Army maps, it is found, can be sent practicably and conveniently by wire. The Second Canadian Divisional Signals are adapting commercial facsimile transmission to military purposes. After long experiment a system has been devised which has never previously been used in army work. The machines employed resemble modern teletype machines. Maps, sketches, and written or printed matter can be transmitted over regular wire or radio circuits. It is claimed that the system is a scientific application of commercial equipment to army needs, and that it provides speed, accuracy and variety. The machines operate over any available speech channel.

(*Foreign Press*)

ECUADOR

English Studied by Military:

On December 24, 1940 the Ministry of Defense issued a decree requiring that the members of both the military and naval forces of Ecuador learn English, and at least two hours each week will be devoted to instruction in that language. Teachers have been appointed in all military zones.

(*Foreign Press*)

U. S. Military Mission to Ecuador:

By an agreement signed December 12, 1940, the United States is to provide both military and naval aviation officers to advise the defense forces of Ecuador. The arrangement will run for four years, and the mission consists of two officers and two enlisted men from each branch of the United States service. This adds to the number of western hemisphere countries provided with United States military, naval or aviation missions. The other countries are: Argentina, Brazil, Chile, Colombia, Haiti and Peru.

(*U. S. Naval Institute Proceedings*)

FRANCE

Engineer School Re-opens:

The School of Application for Engineer Officers, formerly situated at Versailles, has resumed its courses at Avignon.

The Engineer courses, divided into schools of light and heavy bridges and a school of sappers, have been started on the banks of the Rhone. The mining school, in the rocky hills of Bellevue, has all the varieties of terrain that could be desired.

(*La France Militaire*)

Syrian Command Under Weygand:

The French Army in Syria comprised between 100,000 and 150,000 men at the time of the armistice. Since then some troops have returned to France, and others have crossed the border into Palestine.

The Vichy government on January 4, 1941, placed General Henri Dentz, the new High Commissioner for Syria, under command of General Weygand.

(*Foreign Press*)

African Army Gives Nazis Pause:

It is obviously not the political strength of the Vichy government which has thus far restrained the Nazis from demanding fuller French collaboration in the prosecution of the war. It is, rather, French control of instruments of military power which might conceivably be placed in Britain's hands if Petain were pushed too far. Should Hitler occupy the whole of France, he might discover that the French fleet had been scuttled or had escaped to British ports; that British forces had been invited to share the strategically located facilities of Bizerta and other French overseas bases; and even that the North African Army under General Weygand, not to speak of the forces in Syria under General Dentz, had cast their lot with Britain. Vichy was playing its trump card in negotiations with the Nazis when, on February 7, 1941, it quoted General Weygand as flatly denying that German troops would be permitted to use Bizerta against the British forces in North Africa. Thus, despite bitter memories and deep ideological divergences, the identity of national interests is forcing Britain and France together once more. British successes strengthen Vichy's hand, and Vichy's resistance makes more secure all British positions from Gibraltar to Suez.

(*Foreign Policy Bulletin*)

GERMANY

New Antiaircraft Gun:

German antiaircraft batteries have accepted delivery of a new 13-cm (5.2 in.) gun, of which the following details have become known. The barrel is about 20 feet long; the initial velocity of the shell, weighing about 66 pounds, is more than 2,970 feet per second. Vertical and horizontal movements of the barrel are obtained by means of electric motors. Loading is no longer performed by hand, but mechanically. German sources claim that this design represents an important step toward greater muzzle velocity and shorter time of trajectory for given distances. The gun is mounted on a column which is fixed to a base plate to which several beams 10-13 feet long are attached.

(*Aeroplane*)

Losers Pay Heavily:

The following sums are paid, per day, to the Reich by various countries as the cost of military occupation:

Country	*Amount*
France	400,000,000 francs.
Denmark	1,500,000 crowns.
Norway	3,500,000 crowns.
Belgium	2,400,000 Reichmarks.
Netherlands	1,200,000 Reichmarks.
Rumania*	1,750,000 Reichmarks.

(*Foreign Observer*)

Allied Prisoners Held:

It is estimated that 3,500,000 prisoners of war are scattered throughout Germany in tent camps or concrete barracks. These prisoners were captured in the course of the war from the Polish Army, the French Army, and the British Expeditionary Force.

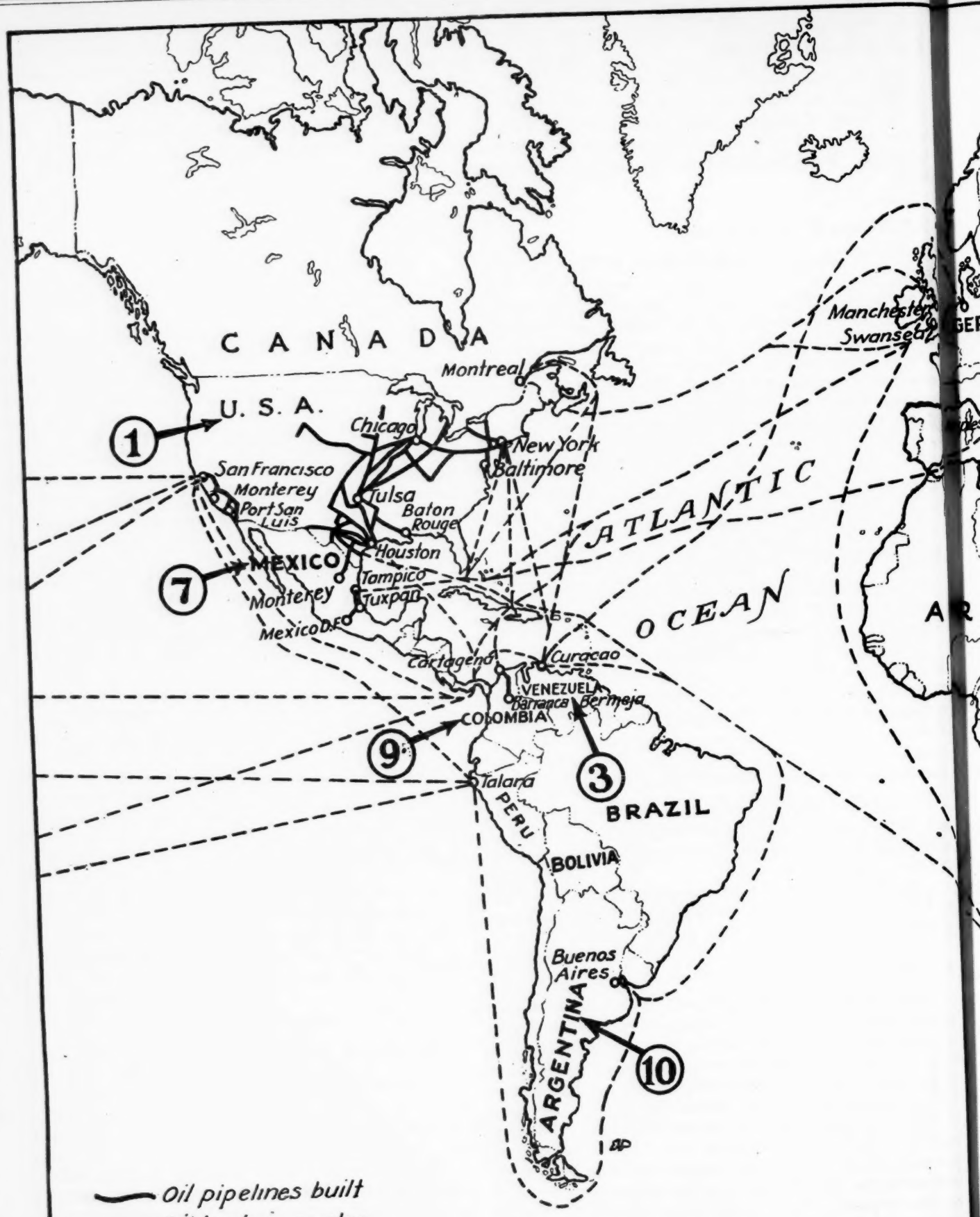
(*Foreign Press*)

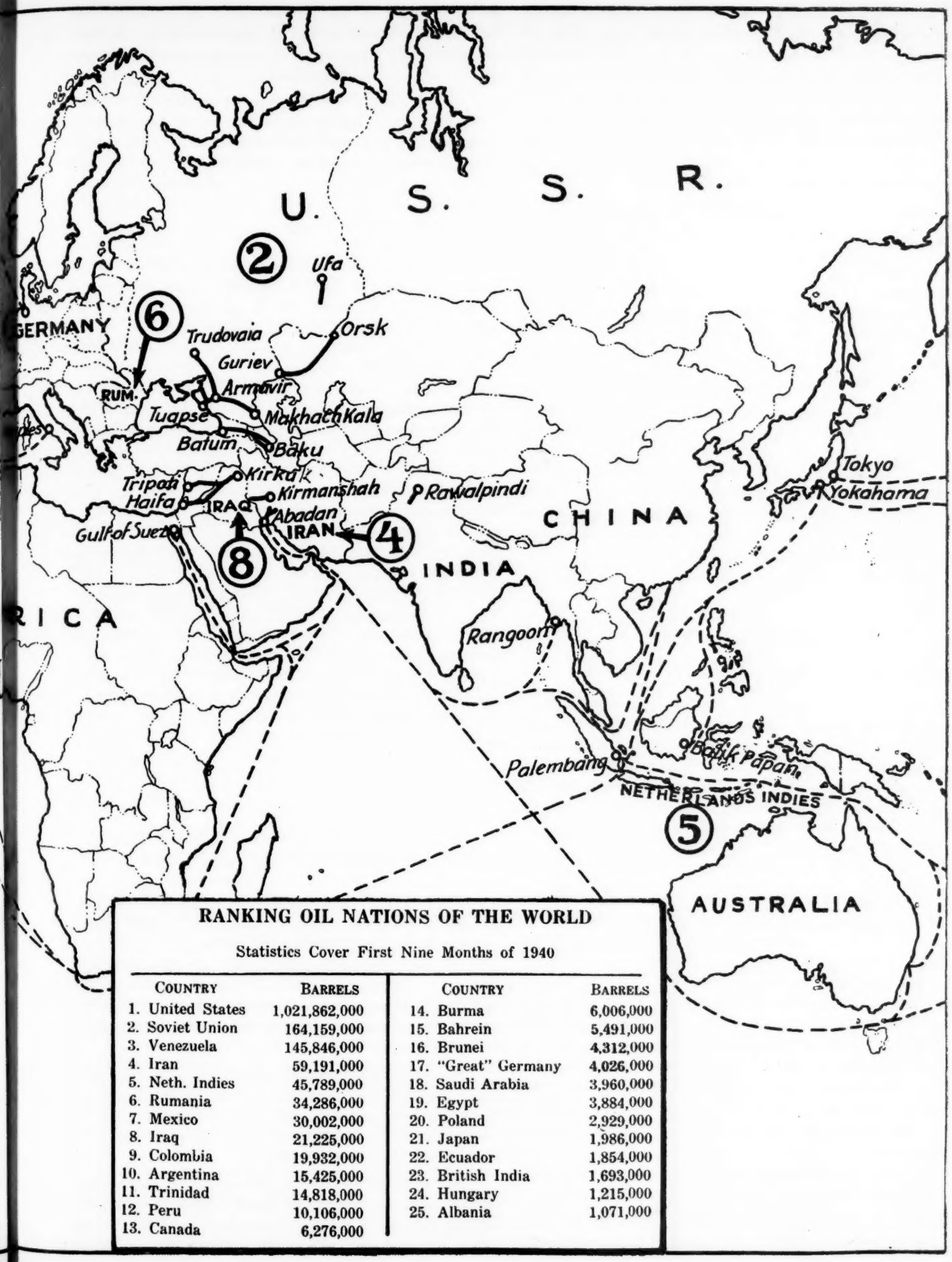
Powdered Foods Predominate:

The German Army is reported to be rationed on a powdered diet. This change is said to facilitate greatly the transportation of army food supplies as the troops are able to carry in their haversacks without additional weight or bulk foods of high nutritive value in special vitamin properties.

The concentrated army foods include various kinds of powders such as tomato powder, cheese powder, apple powder and a jam powder, together with highly vitaminous vegetable juices. The new military schedule of nutriments

*According to British sources.


CANADA
U. S. A.
Montreal
Chicago
New York
Baltimore
San Francisco
Monterey
Port San Luis
Tulsa
Baton Rouge
Houston
MEXICO
Tampico
Tuxpan
Monterey
Mexico D.F.
ATLANTIC
OCEAN
Manchester
Swansea
Cartagena
Curacao
VENEZUELA
Barranca Bermeja
COLOMBIA
Talara
PERU
BRAZIL
BOLIVIA
Buenos Aires
ARGENTINA
1
7
9
3
10
Oil pipelines built
Oil tanker routes



RANKING OIL NATIONS OF THE WORLD

Statistics Cover First Nine Months of 1940

Country	Barrels	Country	Barrels
1. United States	1,021,862,000	14. Burma	6,006,000
2. Soviet Union	164,159,000	15. Bahrein	5,491,000
3. Venezuela	145,846,000	16. Brunei	4,312,000
4. Iran	59,191,000	17. "Great" Germany	4,026,000
5. Neth. Indies	45,789,000	18. Saudi Arabia	3,960,000
6. Rumania	34,286,000	19. Egypt	3,884,000
7. Mexico	30,002,000	20. Poland	2,929,000
8. Iraq	21,225,000	21. Japan	1,986,000
9. Colombia	19,932,000	22. Ecuador	1,854,000
10. Argentina	15,425,000	23. British India	1,693,000
11. Trinidad	14,818,000	24. Hungary	1,215,000
12. Peru	10,106,000	25. Albania	1,071,000
13. Canada	6,276,000		

also include new types of refreshments, chief among which is tartaric acid sugar containing grape sugar, whey, milk and fat as well as an addition of vitamin C.

The German military nutrition plan is reported to have required experimental work extending over a period of years, involving extensive scientific study by experts in the fields of agriculture, medicine, diatetics and military organization.

(*Foreign Press*)

Coal Shipments Are Made:

Germany is busy capitalizing on the advantage she has gained by seizing control of the coal resources of Europe. By means of treaty provisions or international agreements Germany has arranged to export coal to Italy, Yugoslavia and the other dependent or occupied countries. Despite terrific strain on facilities of transportation 1,000,000 tons of coal and coke are being shipped to Italy.

(*Foreign Press*)

Old Soldiers Never Die:

Military longevity is illustrated by Theodor von Bomhard, a German retired General of Artillery, who was 100 years old on January 12, 1941. His birthday found him in the best of health in Prien, Bavaria. General von Bomhard first saw military action in 1866, fighting with the Bavarian Field Artillery against Prussia. He is the oldest living German officer. Next in line is Field Marshal August von Mackensen, who was 91 last December.

(*Foreign Press*)

GREAT BRITAIN

Transportation a Problem:

Lt. General V. A. H. Sturdee, Chief of the Australian General Staff, is quoted as saying that the chief problem of the British forces operating in North Africa is transportation. Endless miles of boulders cover the coastal plains over which the fighting is being carried on, and a terrific demand is as a consequence made upon the supply trucks. Springs snap like carrots, the General declared, and the average life of a shock absorber is one day.

(*Foreign Press*)

Wavell Is Veteran Campaigner:

General Sir Archibald Percival Wavell, the British Commander in North Africa, is an old timer at war. Born 57 years ago, he was educated at Winchester and Sandhurst, and he once belonged to the famous Black Watch. He fought in the Boer War and on the Indian Frontier and in France during the first World War. He also accompanied the Russian forces as Military Attaché during part of the World War fighting in the Caucasus. The culmination of his training was his service under General Allenby during the Palestinian campaign. General Wavell wrote for the Encyclopedia Brittanica its section dealing with the war in Palestine.

(*Foreign Press*)

New Spitfire in Offing:

Britain is preparing a new super-fighter of the air, known as "Spitfire the Third." Its speed, it is reported, will be far in excess of 400 miles an hour. In armament, cannons and machine guns, it will be much more deadly than the earlier Spitfire, which played a major part hitherto in turning back the German Luftwaffe.

For Britain, moreover, is being prepared a "team of the most formidable fighter planes the world has known"—re-engined and re-armed Hurricanes, new Tornadoes, new Whirlwinds, and improved Defiants.

(*Foreign Press*)

British War Buying Heavy:

Under the pressure of wartime needs, Britain has turned increasingly to the United States for commodities and articles needed to prosecute the struggle. Between September 1939 and August 1940, United States exports to the British Commonwealth countries amounted to $1,739,733,000, or 44.3 per cent of all American export trade during that period. Great Britain alone accounted for $779,974,000 of this sum, and Canada for $633,583,000. In July, August and September 1940, after the collapse of France, over one-third of all American exports by value were shipped to the United Kingdom, with almost two-thirds sold to the Empire as a whole. As war production supplanted peace-time economic activity, the character of the British Empire purchases in the American market was sharply altered. In general, British imports of agricultural products and luxury items from the United States have been cut to the bone, being replaced by large orders of a relatively small number of materials useful in war. During August 1940, 95 per cent of all American exports of airplanes and parts, 90 per cent of firearms, ammunition and explosives, 69 per cent of iron and steel semi-manufactures, and 57 per cent of metals and manufactures including iron and steel products were shipped to five British countries—Great Britain, Canada, British India, Australia and the Union of South Africa.

(*Foreign Policy Reports*)

Air Cannon Replaces Machine Gun:

British fighter aircraft are now being equipped with cannon. The change has secretly been going on for some time.

The chief advantages of the cannon over the machine gun are the former's longer range and greater damaging power. Beyond a strictly limited range the trajectory of the machine guns such as have been used in Hurricanes and Spitfires drops sharply. Since the Luftwaffe put heavier armor plating on their aircraft British fighters equipped with machine guns have found it increasingly difficult to shoot them down.

It is not known exactly what type of cannon is being used. Possible choices are the Hispano-Suiza, the American 37-mm long-barrel such as the Airocobra carries, the Danish Madsen, and the Swiss Oerlikon. The gun is mounted to fire through the propeller hub.

A number of the raiders accounted for recently are said to have been shot down by R.A.F. fighters equipped with the new gun.

(*Foreign Press*)

ITALY

Blackshirts a Part of the Army:

Since the reorganization of the Italian Army each infantry division has contained a Blackshirt Militia Legion—heretofore a Fascist military organization distinct from the army.

The Legion consists of two infantry battalions, a machine-gun company, a reserve unit, and a headquarters. It numbers some 1,300 men, and is armed with light and heavy machine guns. In mobility it surpasses the infantry regiment.

Although originally foreign military observers were inclined to regard the Blackshirt Legion as merely the third infantry regiment of the division, informed experts now entertain a different opinion. It is believed that the Legion is used for missions of a special nature such as reconnaissance, march security and raids.

(*Krasnaya Zvyezda*)

Civilian Unrest Plagues Il Duce:

Fascist editors are no longer issuing perfunctory denials of civilian disorders in Italy. They refer now to "traitors in our midst" and speak of "punishment to be meted out to defeatists." Defeatism is reported to have spread rapidly as details begin to seep in of what had happened in Albania and North Africa.

A Belgrade source reports that sabotage has now reached such proportions in some key plants in northern Italy that Italian plant superintendents are being hurriedly supplanted by their German equivalents.

In Rome civilians are said to have clashed with the police. There is widespread anger aroused by continual flights of German planes over Italian cities and by the presence of so many German troops in the large centers. A special report to the New York Times states that "thousands of secret police throughout the country are becoming less vigilant than before, thereby giving people more freedom to exchange views. The concensus of all arrivals here (at Lisbon) is that sooner or later—perhaps sooner—internal trouble will break out in Italy."

(*Foreign Observer*)

New Aircraft for Italy:

Reports from Switzerland say that the Italian Air Force is using two new machines, a dive bomber and a torpedo-carrying seaplane. The dive bomber is the Breda 201 "Picchiatelli," which was first used during a raid on Malta. It has a maximum speed of 250 miles per hour, and carries a bomb load of 2,200 lbs. Its military value is about the same as that of the Junkers Ju 87 B.

The name of the new torpedo-carrying seaplane is the "Idrosilusante," and no details have become available regarding it except unreliable statements to the effect that it can launch torpedoes from a height of 990 feet.

British authorities have a low opinion of both new machines.

(*Aeroplane*)

JAPAN

Japan Leans on Anglo-American Trade:

Japan's great dependence on trade with the United States and with the British Empire has been increased during the past three and a half years of the Sino-Japanese War. The two Anglo-Saxon powers together account for almost three quarters of Japan's trade outside the yen bloc. Of Japanese imports, American and British shares in 1939 aggregated 75 per cent.

In the field of exports, Japan's dependence on the United States and Britain is not very much less. Of Japan's exports to non-yen bloc countries in 1939, the United States took 37.5 per cent; and the British Empire 35 per cent.

The Japanese no longer advertise their commercial dependence by publishing trade statistics. Soon after the beginning of the war in China they discontinued the release of figures on the imports of war materials, and late in 1939 they stopped the publication of figures on their trade with the European belligerents. In April, 1940, they ceased publication of details of their commercial turnover with individual foreign countries, giving trade figures for whole continents only; and since September 1940 they have withheld even these figures. Yet from the trade statistics of other countries relative to their dealings with Japan, the extent of the Japanese dependence can be judged.

Just as for decades past, Japan continues to depend on foreign sources of supply for all or the bulk of the following: iron ore, iron and steel scrap, copper, tin, manganese, aluminum, tungsten, nickel, rubber, mineral oils, cotton, wool, woodpulp, hides, leather, jute, soda, and inorganic fertilizers. Almost all these vital supplies she obtains either from the United States and the Philippines or from the British Empire.

(*China Weekly Review*)

Singapore:

The Isthmus of Kra, danger neck of land in south Thailand (Siam), is now a likely goal for Japan's conquest maneuvers in Southeastern Asia. If Japan is successful in Indo-China, the next step would be to move west from the south tip of Indo-China to the long dangling Malay Peninsula. By cutting off the narrow Isthmus of Kra at which point the Peninsula is less than 70 miles wide, Japanese forces could isolate Great Britain's Gibraltar of the East, Singapore, at the southern tip of the Peninsula.

For some years Japan has had an eye on the Isthmus and has sought permission to cut a canal through it, but Thailand has never acceded to this request.

(*Foreign Press*)

MEXICO

Vital War Supplies to Reich:

Mexico, commercially speaking, is of more importance to Germany than most people in America realize. Mexican exports of mercury, tungsten, molybdenum and vanadium are vital to the Nazis' production of weapons and munitions. They are sent to Germany aboard Japanese vessels sailing from Manzanillo, in the State of Colima, and reach Germany by way of Vladivostok and the Trans-Siberian railroad. That traffic has steadily been increasing in recent weeks, and the port has become the second in importance in Mexico.

(*Foreign Observer*)

RUSSIA

Youngsters Practice War:

Military training of the various ages of Russia's youth has now been initiated. Mobilization of boys from 14 to 17 years of age has been begun for the state labor corps. More than 30,000 boys and girls of the Komsomol organization participated in the war games in Moscow last November. The children marched ten miles and engaged in gas mask drills. Plans are being put into effect to drill children in the schools by means of war exercises in which wooden guns and wooden cannon will be used.

(*Events*)

SPAIN

Food Need Softens Spain:

Editorials in Spanish papers were bitter in their attacks upon the plans of the United States to obtain air bases in South America until they were suddenly stopped last fall when the food problem became acute.

A commercial agreement was signed with Great Britain on December 2, 1940, making available to Spain several hundred thousand pounds from frozen credits and similar funds in London, for purchases in the United Kingdom. United States Ambassador Weddell and British Ambassador Sir Samuel Hoare have been working assiduously to try to keep Spain out of the war by supplying credit for the purchase of wheat, meats, rubber, gasoline and cotton.

(*Events*)

UNITED STATES

Ski Scouts to Aid Defense:

Civilian skiers have been called upon by the army to chart important snow trails and to become intimately familiar with their local terrain in preparation for possible future military service as voluntary scouts for any regular army forces that may be sent to the snow country in time of emergency.

The official War Department orders announced that the principal duty of the ski patrol group would be to divide the northern sections of the country into zones, in order that guides can be ready upon a moment's notice to assume their new scouting duties and form antiaircraft and anti-parachute patrols deep in the snow areas.

The National Ski Patrol System, which offered the services of all its members to help in national defense, is composed of 2,000 trained skiers to serve as a "Police and First Aid Force" on ski runs and sports meets. New patrols are being organized at present to meet the Army's requests for "Snow Scouts," who will be the first civilian scouts used by the army since the Indian Wars.

(*New York Times*)

Professors Advise on Flu:

Secretary Stimson announced appointment of a central board of four university professors to advise the Army in an attempt to control influenza: Dr. Francis G. Blake, Yale; Dr. Alphonse R. Dochez, Columbia; Dr. Ernest Goodpasture, Tennessee University; and Dr. O. H. Pepper, Pennsylvania University. He said the Army Surgeon General is introducing compulsory yellow fever vaccination for troops going into the tropics or now in the tropics.

(*U. S. Information Digest*)

Armament Factories Protected:

Attorney General Jackson, in a recent speech in New York City, stated the FBI has established a thorough system of sabotage detection in more than 1,200 plants producing defense material "in order to safeguard the entire American arms program."

(*U. S. Information Digest*)

Reserve Officers to Duty:

The War Department announced approximately 50,000 of the available 105,000 Reserve Officers will be on active duty by next June. The Department said 25,000 Reserve Officers now are on duty with the Regular Army, comprising approximately two-thirds of the Army's total officer strength. The announcement said that the majority of the Reserve Officers have volunteered for extended active duty, and that there have been "few instances" when the Department had to override requests for deferments.

(*U. S. Information Digest*)

America's Army Grows:

The U. S. War Department estimated on January 4, 1941 that the Army Regulars and National Guard actually under arms on January 1, numbered 608,000, representing nearly a three-fold increase in strength within a year. The Navy and Marine Corps simultaneously are fast approaching a total of 250,000 Regulars and Reservists on active duty.

The military forces under present schedules will be increased by about ½ million men in the next three months some 400,000 being selective service recruits.

The arms expansion program has swelled the number of War Department civilian employees and officers on duty in the national capitol. The employees increased from 5,410 to 10,433 in the year ending October 31 and officers on duty at the War Department increased during the same period from 660 to 1,398.

(*New York Times*)

Pilot-less Planes Tested:

Robot planes controlled by radio from another airplane or from the ground, are being tested by the Army Air Corps at Selfridge Field Headquarters of the 6th Pursuit Wing Squadron.

Long talked of an eventual force in aviation radio control is already being used successfully on an everyday basis in flights from the army air field.

The uses to which Robot planes will be put remain a military secret. A possible conjecture is that the ships will be used in practice in aerial gunnery or antiaircraft fire.

(*New York Times*)

Merchant Ships Transferred:

With the approval of the United States Maritime Commission the following sales of cargo vessels took place between September 1, 1939, and December 23, 1940:

To	Number of Ships	Gross Tonnage
Britain	132	470,908
Canada	43	61,617
France	19	49,229
Belgium	9	68,677
Italy*	3	9,275
Greece*	10	42,112

(*Foreign Policy Reports*)

Embargo Proclaimed:

Additional important restrictions on the export of raw materials vital to national defense were proclaimed by President Roosevelt on January 10, 1941. The motives behind the new restrictions were two: a desire to prevent the depletion of supplies needed for American defense, and a wish to keep certain metals from reaching Germany by way of Soviet Russia. The metals affected include copper, brass, bronze, zinc and nickel. Also included were potash and potassic fertilizer materials. Since February 3d, none of these metals can be exported except under export licenses issued by the administrator of export control.

In 1940 Japan was the largest purchaser of United States copper, taking a total of 225,065,511 pounds of the metal produced in this country. Russia, which before the war bought comparatively little American copper, purchased 45,496,194 pounds of that metal in 1939, mostly after the war had started. Last year Soviet purchases amounted to 108,955,990 pounds. Given the rise in purchases coincident with the outbreak of the war, there has been considerable curiosity as to how much of the metal has been destined for Russian consumption and how much has been trans-shipped to Germany.

(*Foreign Notes*)

National Guard Units to be Inducted:

The War Department announced that approximately 28,000 officers and enlisted men of the National Guard will be inducted into the Federal service in March, approximately 6,000 in April, and about 500 in June 1941. The units to be inducted in the next four months, their home States, definite and tentative induction dates and training areas to which assigned are as follows:

Unit	Home State	Definite Induction Date	Training Area
40th Division	California, Utah	March 3, 1941	Camp San Luis Obispo, California
115th AC Obsn. Squadron	California	March 3, 1941	Paso Robles, California
33d Division	Illinois	March 5, 1941	Camp Forrest, Tennessee
107th Cavalry (horse-mech.)	Ohio	March 5, 1941	Camp Forrest, Tennessee
101st Military Police Bn.	New York	March 10, 1941	Fort Dix, N.J.
372d Infantry	Massachusetts, Ohio, New Jersey, Maryland, District of Columbia	March 10, 1941	Fort Dix, N.J.

*Vessels transferred before country became a belligerent.

Unit	Home State	Tentative Induction Date	Training Area
Headquarters Battery 72d Field Artillery Brigade	Michigan	April 1, 1941	Fort Leonard Wood, Mo.
182d Field Artillery	Michigan	April 1, 1941	Fort Leonard Wood, Mo.
177th Field Artillery	Michigan	April 1, 1941	Fort Leonard Wood, Mo.
119th Field Artillery	Michigan	April 1, 1941	Fort Leonard Wood, Mo.
183d Field Artillery	Idaho	April 1, 1941	Fort F.E. Warren, Wyoming
188th Field Artillery	North Dakota	April 1, 1941	Fort F.E. Warren, Wyoming
Headquarters Battery, 76th Field Artillery Brigade	California	April 1, 1941	Fort F.E. Warren, Wyoming
121st Coast Artillery Battalion (Antiaircraft)	Nevada	June 1941	Camp Haan, California

The only National Guard units for which induction dates have not yet been scheduled are nine National Guard Air Corps observation squadrons. These squadrons have a combined strength of approximately 1,500 officers and enlisted men:

Unit	Home State
121st Obsn. Squadron	District of Columbia
122nd Obsn. Squadron	Louisiana
123rd Obsn. Squadron	Oregon
124th Obsn. Squadron	Iowa
125th Obsn. Squadron	Oklahoma
126th Obsn. Squadron	Wisconsin
127th Obsn. Squadron	Kansas
128th Obsn. Squadron	Georgia
129th Obsn. Squadron	Alaska

(*U. S. Information Digest*)

Contracts for Outlying Bases:

The Navy Department announced award of more than $20,000,000 in contracts for Navy work at Trinidad, British Guiana, and Newfoundland and War Undersecretary Patterson told his press conference that contracts totaling $13,706,000 have been awarded for Army work at Bermuda, Newfoundland, St. Lucia, British Guiana, Trinidad and Antigua.

Mr. Patterson estimated the total cost of the fortifications at these bases at $102,280,000, but said he had no estimates for work at the Jamaica and Bahama bases.

The Undersecretary said that money for starting the work will come from President Roosevelt's emergency funds, and that the construction work will be in the charge of Army engineers, who will work in close liaison with the Navy. He said that the Navy is primarily concerned with dock facilities and dredging and the Army with fortifications and garrisoning.

(*U. S. Information Digest*)

Old Ordnance Reassembled:

Twenty-one cannon used by General Burgoyne's Army at the Battle of Saratoga during the American Revolutionary War will be returned to the battlefield as part of the Federal construction of the site.

The cannon will be transported from widely scattered sections of the country. Two were found at Watervliet

Arsenal, four in the vicinity of West Point, and several in Washington, D. C., and at Monroe, Virginia.

The cannon have been identified from an original inventory of ordnance received from General Burgoyne when his army surrendered in October, 1777.

(*New York Times*)

URUGUAY

Japanese Trade Commission Arrives:

A Japanese semi-official trade commission is in Uruguay studying industry and commercial markets with a view to increasing Japanese trade in the South American countries. The mission has already visited Brazil and will in the future visit Argentina and Paraguay. A similar mission is simultaneously visiting the Pacific Coast countries.

Next June Japan will send a floating exposition of Japanese machinery to the east coast of South America as part of a trade drive. The Japanese plan is to barter Japanese manufactured products for the South American raw materials needed by Japanese industries, her war industries in particular.

(*Foreign Press*)

Acme Photo.

BRITISH TANK IN EGYPT

Foreign Military Digests

Digests of articles from foreign military periodicals; other items of interest from foreign publications are summarized in the Catalog of Selected Periodical Articles.

Air Infantry

["Vozdushnaya pekhota," by Colonel V. Lozovoy-Shevchenko. Translated from the Russian by Lieutenant Joseph Dasher, ORC, from *Krasnaya Zvyezda*, 27 September 1940.]

German air landing parties in Norway, and their mass use in Holland and Belgium have attracted widespread attention. The foreign press has been filled with accounts of air landing parties, their missions, and methods of counteracting them.

Air landing parties are divided into parachute detachments and troops transported by plane. The weak feature of parachute landing parties is their great vulnerability during the descent. Slow opening of the parachute requires that the jump be made from a height of 600 to 800 yards. This increases the time that parachute personnel must spend in midair, and renders difficult landing in a compact group. In order to remove these shortcomings delayed jumps were usually employed, but this required a high degree of training on the part of each parachutist. For the greater part the Germans released their parachutists at low altitudes from about 100 to 250 yards. For opening the parachute a cord was used, one of which was attached to the plane, and other end to the parachute. When the parachutist jumped, the cord snapped.

The release of parachutists was executed for the greater part at dawn, or in the dusk of early evening hours. The men were dropped from aircraft in groups of 8 to 10 men, who would land closely together, thus immediately forming a small unit in immediate readiness for combat.

The other type of aerial landing parties are effected with the aid of transport planes, landing directly on enemy airports. This system is very convenient because the landing of troops is accomplished compactly in one spot. Heavy matériel (machine guns on fixed mounts, guns, etc.) may be landed at the same time. The personnel of such a landing party does not require lengthy training and may be taken directly from any combat units. It must only be instructed in the order of loading and unloading the planes. This requires but little time.

In many cases the ground and antiaircraft defense of airdromes, combined with obstacles of all sorts on the landing field, can prevent the landing of a party, or can speedily liquidate it. This is the reason why the Germans employed both methods.

The first echelon was usually composed of parachutists, who were dropped suddenly in the vicinity of an enemy airdrome. They operated in units of 100 to 150 men. After destroying the force defending the airdrome and the means of antiaircraft defense, and after removing the obstacles erected on the landing field, the parachutists sent messages by radio that the airdrome is now ready for the landing of transport ships. The last echelons consisted of air landing parties, which, upon receipt of the message, landed from transport planes.

The landing itself, in most instances, was protected by heavy pursuit planes, which by their aerial attacks aided the parachutist after their landing had been accomplished.

Two basic types of aerial landing parties were employed:

(1) Landing on enemy territory of individual scouts or of small groups of saboteurs for the purpose of destroying fortifications, railroads, highways, bridges, radio stations, lines of communication, stores, etc.

(2) Landing on enemy territory of units, small and large, in order to capture important strategic points and for operative cooperation with the ground forces advancing from the front.

Small groups of saboteurs were widely employed in Poland and in the west. The landing of large units was accomplished in Norway, Holland and Belgium.

Aerial landing parties are used depending on the situation, at various distances from the front lines, and they execute their missions in tactical or operative cooperation with the ground forces.

The mastery of the air is essential to the employment of aerial landing parties in a mass. It is absolutely necessary that enemy aviation be grounded, as otherwise it will counteract the landing units, attacking them at points of loading, destroying them in the air while en route to points of release, and attacking landing parties while in the process of unloading from aircraft.

Air forces which are engaged in direct support of aerial landing parties, are obliged, above all, to destroy the ground and antiaircraft defenses of the enemy in the vicinity of the landing, and then to render maximum support to their own aerial landing forces engaged in combat in enemy territory. It was thus in Holland. At dawn on 10 May, 1940, the German air force before releasing a parachute landing party,

bombed the barracks at The Hague where there were some 800 soldiers, and thus insured the successful landing of the party.

The points of landing are reconnoitered with the greatest of care, by means of aerial reconnaissance and espionage agents. The landing units are fully supplied with accurate maps and plans of the points of landing. The landing units study in advance all the areas of action, utilizing for this purpose all descriptions, maps, reconnaissance reports and photographs.

Landing operations require careful preparation and well organized protection, therefore they are usually organized and effected on a scale of the entire front. Action by parties landed in the enemy rear cannot continue for unlimited time without timely support of ground troops, so the landing operation is planned to correspond with the operations of the front units. Thus, in Holland, it would seem the landings were planned with the calculation that the German mechanized forces, on the fourth or fifth day, would appear in the area of action of the aerial landing parties at Rotterdam.

Of great importance to the success of the landing operation is the scale on which it is staged, because the more active groups there are in the enemy rear, the more difficult it is to combat them. It is very difficult to establish, on the basis of information furnished only by the civilian population, the location of the main enemy landing party. Therefore, the mass use of aerial landing parties will compel the enemy not only to scatter his forces, but will also cause the improper use of these forces. Experience shows that individual landing parties, at isolated points, were soon destroyed by the enemy.

Thus, aerial landing forces should be employed in a mass. Only by such use can their action be of decisive influence on the operations of the ground forces. The development of the theater of action in the sense of availability of means of communication, transport, etc., will be an important factor. On the one side these will aid the aerial landing parties, providing them with means of transportation and increasing their mobility, but on the other hand they will also facilitate counteraction by the enemy. The presence in the enemy rear of various obstacles (rivers, mountain passes) will permit small landing parties in such areas to hold enemy forces for a lengthy time.

The training and instruction of the parachutist takes place in such condition as to make him not only expert at the sport of parachute jumping, but also a soldier, well able to fight under difficult conditions. He must be an excellent marksman with all small arms, and must be skilled in the art of sabotage. The advance acquaintance with the area of landing will instill in him confidence in his actions.

In this manner aerial landing troops may be employed in various operative and tactical missions.

Flame-throwing Tanks

["Ognemetniye tanki," by Colonel I. Tishkin. Translated from the Russian by Lieutenant Joseph Dasher, ORC, from *Krasnaya Zvyezda*, 24 June, 1940.]

In order to attain the maximum in mobility and speed German flame-throwing tanks are protected by rather light armor, which renders them more vulnerable to the enemy antitank gun.

According to many sources of information the Germans have both light and heavy flame-throwing tanks.

In addition to the powerful flame thrower these tanks also have a cannon and two machine guns. This armament enables them to act independently.

Along its route the flame-throwing tank destroys enemy firing positions which impede its forward progress. It employs its cannon for the silencing of enemy antitank guns.

Against fortified positions flame-throwing tanks give support to infantry and accompany it to its destination. In cooperation with infantry and engineers they can successfully solve such problems as the silencing of permanent emplacements, the destruction of personnel or the blocking of emplacements. Heavy flame-throwing tanks are particularly effective against permanent emplacements. Such tanks played a decisive part in the capture of the Eben Emael fortress by the Germans.

Flame-throwing tanks may be very effectively used in meeting engagements not only in the vanguard, but with the main forces as well, for the purpose of destroying personnel (infantry, cavalry and motorized units), firing points and enemy artillery.

During the attack flame-throwing tanks are employed as support for infantry in independent action, in the attack against enemy infantry, in trenches, crevices, and other shelters, and against counterattacking enemy tank units.

In the defense flame-throwing tanks may become a powerful weapon of counterattack.

Modern flame-throwing tanks can make use of their flame-throwing equipment when in motion as well as from a stationary position.

Crews of German flame-throwing tanks wear asbestos suits which are effective not only in protecting the personnel from fire when abandoning a burning tank, but they also enable the crew to extinguish a fire inside the tank.

These tanks can be especially useful against fortified sectors when the commander of a force lacks sufficient time and the needed artillery for the destruction of permanent emplacements. In such cases the action of flame-throwing tanks in the approach to permanent emplacements will be especially effective if executed behind a neutral smoke screen.

The Suez Canal

["Wehrpolitische Skizzen zum Zeitgeschehen," by Colonel Rudolf Mlaker. Translated from the German by Lieutenant Joseph Dasher, ORC, from *Militärwissenschaftliche Mitteilungen*, November, 1940.]

I—The Suez Canal

With Italy's entry into the war England has been forced to discontinue general ship traffic through the Suez Canal. It is now routed around the Cape of Good Hope.

The importance of this canal to world commerce lies in the reduction of the sea distance between Europe, Asia and East Asia. About 13 days are gained in the voyage from Gibraltar to Bombay through Suez, as compared with the same voyage around the Cape of Good Hope.

Until very recently the Canal was one of the most important lifelines of the sea power of the British Empire. It joins the heart of the world empire—India—with the far distant mother country. For a long period of time England has given the greatest care to the defense of this line of communication. Gibraltar, Malta, the defensive triangle Alexandria—Haifa—Cyprus, Port Said, Suez, and Aden at the Red Sea outlet, have formed the powerful, armed strongholds for land, air and sea forces.

The canal, which measures 107 miles in length, joins Port Said on the Mediterranean with Suez at the northern end of the Red Sea. Port Said is a city of 125,000, including 25,000 Europeans, and it has a large airport. Suez has a population of 50,000. The canal has no locks. At the present time Port Said is Egypt's supply port. It is situated at the eastern end to the great delta of the Nile, in a desolate, barren region. The city is the seat of the Suez Canal Company, and is an important oil and coal station. Commercially it is important for its transit traffic. The sea harbor has an area of 568 acres, and is 10-14 yards deep. It is well protected by breakwaters.

In the Bay of Suez there are two ports: Port Ibrahim, with dock facilities, and Port Tewfik. The following are the width and depth measurements of the Suez Canal: water surface width, 100 yards; bottom width, 45 to 100 yards; depth, 12 to 13 yards. Because of safety considerations ships are allowed to draw only 10.36 yards. The passage through the canal lasts 17 hours, because ships must move over the canal bed at half power and can use full power only upon reaching Bitter Lake. Block stations are placed along the entire length of the Canal to facilitate the passage. Because the Canal is proportionately small, ships which have run aground and which cannot be refloated within 24 hours may be blown up. In the event of war, in order to avoid such impediments to traffic, a new channel section may be dredged within a few days through the soft, sandy bank. The frequent sand storms from the desert require constant dredging of the canal bed. In individual places along the Canal there are ferries for crossing.

Along the west bank runs the railroad from Port Said through Ismailia (16,000 inhabitants, mostly laborers and officials of the Canal Company), with branches to Cairo and Suez. At El Kantara begins the Palestine railroad line and a highway through El Arish to Jerusalem. The starting point of this railroad is to be extended to Port Fuad (a city of laborers and officials, built in 1926). From the Nile, dating back to the time of the building of the Canal, there leads a fresh water canal which runs along the railroad from Ismailia as far as Suez. It serves as a drinking water supply, but is also being used by sail boats.

The Canal zone as such is situated in flat and hilly desert terrain (hot climate, dearth of drinking water, sand storms). Far out from the Canal one can see only the desolate, yellow sea of sand, and a rocky plateau with dune drifts. The flora consists of occasional tamarisk bushes along the canal banks.

The defense of the Canal's neutrality has been vested since 1888 in the Egyptain Government. Gradually, however, England has been pressing her own policies in this area. In 1936 she forced upon Egypt an agreement, giving Britian the right to erect fortifications and to station troops in the Canal zone. In normal times these troops consisted of some armored and motorized units as well as some 400 fliers. The naval forces of the Canal contingent used the harbor of Akaba on the Red Sea as a strong point and assembly center. It was planned to connect it by a spur line with the Kekuk-Haifa oil line.

The strongly fortified Canal zone includes a number of modern airdromes and barrack towns. The latter are situated near Ismailia, Nefidjeh and Geneffeh.

The question now arises: to what extent is the Suez Canal endangered in the present war. It is undoubtedly in danger of attack from the air even if it is not as vulnerable as, for instance, the Panama Canal with all its many artificial constructions. For the time being, the Suez Canal is not in any danger from land. A British military defeat would cause England to lose "face" in the African and Arabic world. During the World War the Suez Canal was on several occasions the objective of Turkish land attacks, which, however, brought no lasting results. In any case great moral effect was produced, and up to August 1916 the English were compelled to continue strengthening the Canal force until it reached 70,000 men, who remained tied up.

During the middle of January 1915, there took place the first Turkish offensive by an expeditionary corps (20,000 men with 9 light batteries and one 150-mm howitzer), having as Chief of the General Staff General Kress von Kressenstein. The main column was to attack Ismailia, with two additional columns advancing on El Kantara or on Madama. Thanks to careful preparations it was possible to cross within a week the waterless desert terrain 125 miles wide to the east of the Canal, and at the end of January the terrain immediately adjacent to the Canal was reached.

On the night of 2 February there took place the Turkish attack, in the midst of a sudden, furious sandstorm. The attack continued until the late afternoon of 3 February. Because of the powerful defensive fire it was impossible to bring pontoons up to the water. Small detachments which succeeded in crossing the Canal in three places were captured

by the British. Besides this, the sandstorm had rendered all machine guns useless. On 4 February a retreat had to be ordered.

In the summer of 1916 a second offensive was undertaken, through El Arish—Kattie; but in spite of some brilliant individual actions this expedition ended badly. The great difficulties of such an undertaking had been underestimated. Besides this, the expected uprising of the Egyptian population failed to materialize.

With the occupation of British Somaliland by the Italians, the last English sea connection from the Indian Ocean through the Suez Canal to Egypt and the Sudan has been placed in great jeopardy.

II—The English Defensive Triangle: Alexandria—Haifa—Cyprus

Alexandria

In the southeastern corner of the Mediterranean one finds the bases of the British Navy, now blockaded by Italy. These bases are Alexandria, Haifa, and Famagusta (Cyprus). The first two are now being frequently and heavily bombed by Italian aircraft.

This pattern of bases, with its three fronts, has several missions. Above all, it must protect the oil supplies arriving in Haifa from Irak and the oil now stored there. Secondly, the northern entrance to the Suez Canal must also be protected.

Alexandria is the principal naval base and the foremost Egyptian importing and exporting port. Being the second largest city of the Nile country, it numbers 685,000 inhabitants, of whom about 110,000 are Europeans, mostly Italians and Greeks. Alexandria is situated at the western point of the delta of the Nile on a sandy strip of soil separating Lake Mariut from the sea. The artificially created harbor, which is now being used only by the Navy, in no respect answers the requirements of a modern naval anchorage. It consists of the east and west harbors, of which the former in normal times is accessible only to fishing vessels, while the latter serves for navigation and the war fleet. The harbor has an area of 1,729 acres and goes down to 20 yards depth in the outer harbor where the naval vessels are anchored. A breakwater 2 miles long protects the harbor from the open sea. The inner harbor covers some 469 acres of water surface and is up to 8.5 yards in depth. It includes the British naval arsenals, wharves and docks. The inner harbor is connected with the Nile by a navigation canal, the Mahmudie Canal. Numerous partially obsolescent forts protect the harbor. The fertile area of the Nile delta, where cotton is grown, is also protected by defensive works at the estuaries and at the entrances to Lakes Burlus and Mensaleh.

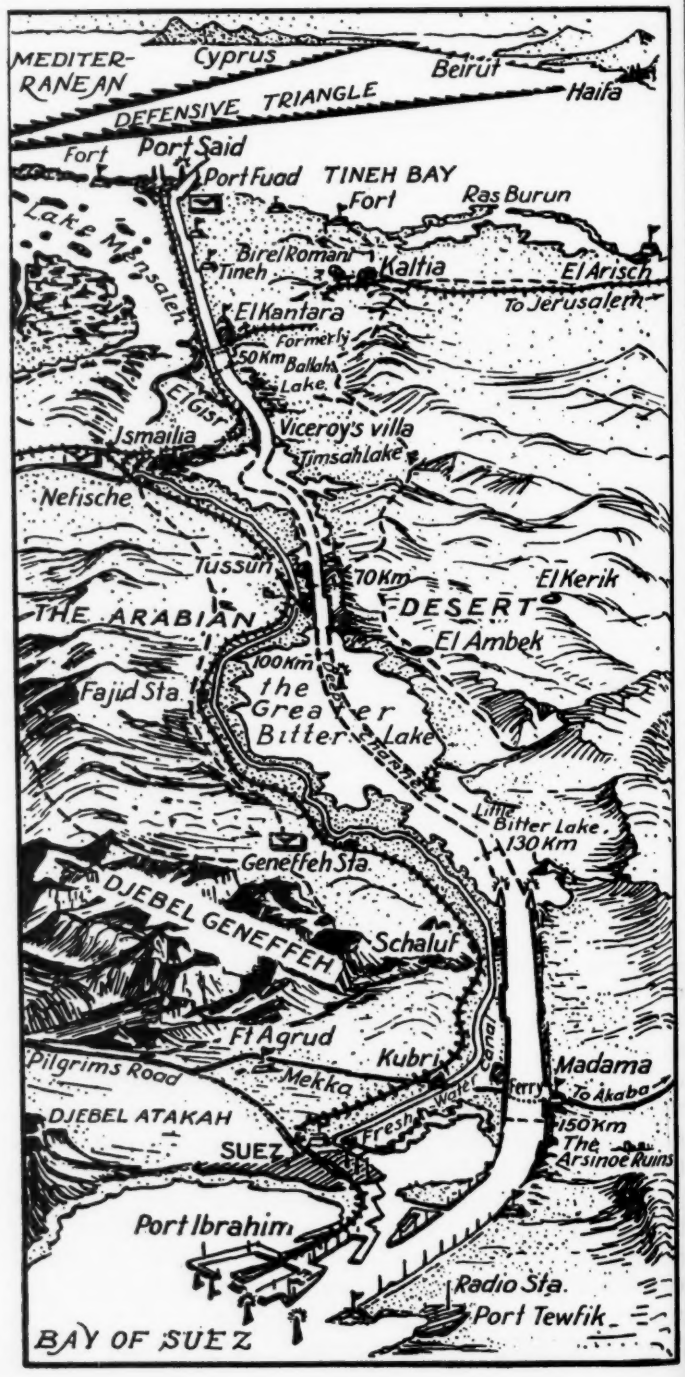
Alexandria is situated about 350 miles from the Italian air base on the Island of Rhodes and about 375 miles from Tobruk.

Cyprus

The second base is the British Crown Colony of Cyprus. Mountainous at both its northern and southern ends, the island has the fertile plain of Messaria in its center. It covers an area of 5,800 square miles and has a population of 385,000 (about 80 to the square mile), predominantly Greek in nationality.

The military development of Cyprus started in 1936. The harbors are naturally fine, and have been greatly improved and developed. The port at Famagusta, however, cannot accommodate the larger naval formations. For the time being this harbor serves only as a submarine base. The permanent garrison of the island consists of 2,000 men. The Messaria plain is crossed by a railroad, and includes several modern, well-developed airdromes.

Because of the proximity of the strong Italian naval and air base on the island of Rhodes (312 miles), Cyprus is greatly endangered.



Haifa

Haifa is the third base of the "defensive triangle". It is Palestine's main port and the principal exporting point for that country's overseas commerce.

The city's 100,000 inhabitants are distributed as follows: 42,000 Moslems, 38,000 Jews, and 20,000 Christians.

Haifa's climate is uniformly mild. The city is connected with the hinterland by rail and a good highway, running through the Jezreel valley.

Haifa's military importance lies in the fact that it is the only British oil base in the Eastern Mediterranean. On its coast is also the terminus (now fortified) of the oil line from Kekuk. The main harbor is separated from the oil harbor by a one-mile breakwater. The harbor has been greatly developed during the period of 1929-1933 and has been dredged to a depth of 9 to 11 yards. The oil harbor contains a great number of oil tanks, an oil refinery, and other important military objectives.

The possession of Haifa is vitally important to the British as a source of fuel supply for their naval forces in the eastern Mediterranean, as well as for the R.A.F. and the mechanized forces.

Haifa is 500 miles from the Italian air base on the island of Rhodes.

Since it is so exposed to Italian air attacks, the British may find it necessary to remove this oil base to the Persian Gulf.

III—MALTA

Malta, once so important a base of the British navy and air force, is now situated in the center of an Italian mine defense zone and is being continually bombarded by Mussolini's air force. Its strategic importance has been greatly impaired.

A group of islands, consisting of Malta, Gozzo and Comino, have been converted by the English into a strongly fortified Mediterranean base for the British navy and air force.

The principal island, Malta, is 20 miles in length and 9 miles in width. The total area of the three islands is 193 square miles, of which 154 square miles is Malta alone.

Of the 270,000 inhabitants (about 1,500 to the square mile), 180,000 live on the island of Malta. Catholic by religion, the population is predominantly Italian (Sicilian) with an admixture of Arabic.

The islands have a damp, hot climate which is very mild in the winter. The limestone of the island yields but little water and rain water has to be stored in tanks.

Valetta, the principal city, has two water supply lines from the interior.

Malta is situated only 56 miles from Sicily (Italian air bases at Augusta and Taranto) and 206 miles from Tripoli. Besides this, to the west of Malta are the very modern and powerfully fortified Italian bases of Pantelleria (125 miles away, a submarine and air base), Linosa, and Lampedusa. Since 1937 this space has been declared by Italy a "fortified zone". Malta is thus seriously threatened on three sides, from the air and sea, at short distances. The naval units stationed at Valetta are exposed to complete destruction,

Since the Ethiopian War Malta's defenses have been greatly strengthened. The island is now used mainly as an air base with airdromes at Marsa Scirocco, Helfar, and Imcabba.

Normally there are stationed some 50 naval units and a garrison of 15,000 men in Malta. The facilities have been expanded to provide for 40,000 men.

The Malta coast is strongly defended against landing parties and is protected by barbed wire entanglements. A defensive line extends from St. Paul's Bay, through Musta and Citta Vecchia and Zurricco.

Aerial Landing Parties and Action Against Them

["Vozdushniye desanty i bor'ba s nimi," by Major V. Nikulin. Translated from the Russian by Lieutenant Joseph Dasher, ORC, from *Krasnaya Zvyezda*, 12 September 1940.]

The mass employment of aerial landing parties was effected in the decisive operations on the western front. The idea of "vertical flanking" of the enemy from the rear became feasible thanks to the wide use of aviation for transporting troops through the air.

After the first World War, studies were conducted in all countries as to the possibility of transporting troops through the air. At the same time, training and maneuvers were conducted, in the course of which this question was studied in practical application. During the air maneuvers in the United States in 1931, heavy transport planes were used for transporting the technical personnel of air units. In 1932 the British transported an entire battalion of 550 men by air from the Suez Canal area to Bagdad. This movement, over a distance of 750 miles, was accomplished by two Vickers "Victoria" squadrons. Each of these planes carried 23 men with full equipment in addition to its own crew.

The increase of the load carrying capacity of aircraft rendered possible the transportation not only of small units, but of hundreds and thousands of fully armed soldiers. During the current war Germany is using for the transportation of aerial landing parties the "Junkers-52", "Junkers-90" and Fokker-Wulff "Condor" planes. The tri-motored "Junkers-52" has shown itself to be the most suitable of these, carrying up to 20 men with full armament. Inside its fuselage it is possible to place an antiaircraft gun, a motorcycle with side car, or other large objects. The four-motored "Junkers-90" can transport 40 fully equipped men. Aircraft of similar power are able to carry through the air light and medium tanks, attached under the fuselage.

Thus the technical progress of aviation brought to realization the mass movements of troops through the air. This was conclusively shown by Soviet aviation during the 1936 maneuvers, when for the first time in aviation's history a party of several thousand men was landed by parachute.

In those armies where all the possibilities for employment of aerial forces were given timely consideration, aerial landing forces were properly formed. Of the capitalist countries, the greatest attention to aerial landing troops was given by Germany. At the same time in the British army, until recently, the use of aerial landing parties was limited solely to reconnaissance missions. In France the use of aerial landing forces was considered feasible only in so-called thinly populated areas, which can hardly be found on the western front. Both England and France failed to place the proper value on all the possibilities of aerial landing forces. It is for this reason that the mass aerial landings in Holland and Belgium were such a surprise for the Allies.

According to foreign sources during the operations in Holland and Belgium the Germans used two divisions of air landing troops, organized into a separate corps. The first division consists of parachute units, while the second is formed of units transported in aircraft.

The parachute division consists of battalions numbering 500 parachutists each. The division numbers some 5,000 men. The battalion is armed with one 75-mm gun, one 81-mm mine thrower, thirty 50-mm mine throwers, twelve machine guns on fixed mounts, forty-four light machine guns. Every parachutist carries a semi-automatic pistol, hand grenades, and dynamite sticks. Individual missions may be executed by companies, platoons and squads. The platoon consists of three squads, each of five men. The armament of each squad (besides the individual equipment) is dropped separately by a load parachute.

The operations of German parachute troops show that this arm has undergone very thorough training, including the tactics of combat in the enemy rear while entirely cut off from the main forces, the tactics of street fighting, and the ability to handle every means of communication. Furthermore German parachutists are trained in the technique of handling various signal equipment (flash, optical, wire and wireless), and they are acquainted with all automatic arms. Of course the parachutist cannot be an expert in all these things, but even some acquaintance with them plays a considerable part in the operations of aerial landing parties in the enemy rear.

Aerial landing forces are a new weapon, whose mission is the sudden capture and retention of important objectives in the deep rear of the enemy. Thus, for instance, in Holland they captured a number of coastal points along the North Sea in order to prevent the landing of British troops, and also the Waalhaven airport, near Rotterdam, one of the most important airports in Holland. Of great importance was the capture of the Albert Canal bridges by German parachute troops. It is known that the possession of these bridges was a decisive factor in the development of the German offensive. A parachute party also captured the bridge across the Maas river at Murdyke assisting the advance of mechanized forces from the south upon Rotterdam.

The ability of aerial landing parties to penetrate the rear, necessitates the complete reorganization of defensive measures. It is likely that the most suitable system will be the organization of defensive measures. It is likely that the most suitable system will be the organization of defensive areas in the entire territory of the country, with centers at important strategic points. In these centers there should be stationed highly mobile units and aviation capable of offering immediate resistance to aerial landing forces. Great significance is given to the organization of an antiaircraft defense system over the entire territory exposed to enemy air raids. In many cases it will be difficult to locate the landing point of an aerial party. The cooperation and assistance of the entire population of the country will be necessary in locating the party and in destroying it.

At the present time England is taking many measures against the possibility of a landing on her islands by German aerial landing forces. A special corps for antilanding defense has been formed among the civilian population, and this organization consists of all citizens between the ages of 17 and 65. Volunteers form reconnaissance and observer units, to aid the regular army in its activities against aerial landing parties.

For observation service in sparsely populated areas the British Government decided to mobilize some 30,000 motorcyclists. "The British Legion" (veterans of World War I) has been authorized to form a corps of snipers 100,000 strong. According to Swiss sources, 400,000 volunteers have already enlisted for action against aerial landing parties.

For this purpose the British decided to utilize a considerable part of the regular army. They have carefully coordinated the activities of the regular army, the R.A.F., and volunteer forces.

From the regular army, small, highly mobile and well armed units are being formed. Machine guns, protected by sand bags, have been emplaced. Many areas have been mined. Gun emplacements of reinforced concrete are being constructed for the defense of airdromes. Many fortifications have been erected in London itself. Measures have been taken to prevent landings by enemy aircraft. For this purpose all the fields, which could be so used by the enemy, are criss-crossed by ditches; and obstructions of old motor cars, wagons, concrete pipe, etc., have been erected.

Danger from the air has necessitated security measures along lines of communication. Railroad engineers have been instructed to render their locomotives useless when confronted with capture by an aerial landing party. All ground and water lines are patrolled. The patrols must examine the identity of persons traveling in motor cars. A measure has been published prohibiting the installation of radios in busses, automobiles and other vehicles. On automobile highways all signs showing distances and names of localities have been removed, in order to render orientation difficult for the enemy.

Just how effective these English measures will be against aerial landing parties is difficult to prognosticate, because the entire defensive system is predicated on the presumption that in their attack on the British islands German aerial landing parties will employ the same tactics as in Holland.

The Equipment of German Parachutists

["Snaryazhenye germanskikh parashutistov," from Swiss Sources. Translated from the Russian by Lieutenant Joseph Dasher, ORC, from *Krasnaya Zvyezda*, 15 August 1940.]

The parachute jumpers are the most select personnel of the German air troops. They are most intensively trained, and their equipment is designed with the greatest thoroughness. Thus, for instance, those parachutists who are designated for action in cities are equipped with tools which facilitate their operating on roof tops. Special shears for cutting sheet iron, and a small pick, which facilitates their penetration into attic rooms, are standard equipment for parachutists. Besides these, they have a silk rope with an anchor-like hook, to be used in jumping to lower buildings or to the street.

Landing on a roof, according to German specialists, is especially effective, since it affords the parachutists good concealment and permits observation. In addition to this, roofs are usually more weakly defended than streets.

The training of parachute jumpers in landing operations was recently accomplished on a large scale in the city of Bromberg, West Prussia (Bydgoszcz, Poland). The eastern part of the city was cleared of inhabitants under the excuse of giving shelter to the Germans re-settled from the Baltic countries. In reality, however, this portion of the city was completely cut off from the other city districts, and turned over to German aviation. The training of parachute troops which took place there was somewhat reminiscent of training for mountain warfare. The soldier was taught to climb and to jump from a certain height, to use the rope, etc. Films made of German landing parties in Rotterdam show, among other things, how thoroughly the German parachutists have mastered the art of rooftop climbing in cat-like fashion, while remaining wholly invisible to the enemy.

One of the main dangers to which the parachute soldier is exposed is his vulnerability during the jump. This danger is now eliminated by the Germans by the use of a smoke screen which every parachutist can release around himself during the descent by means of a special powder.

The armament of parachute jumpers is also interesting. Every man has a light Mauser rifle of an entirely new design, equipped with a luminous sight, enabling him to fire in darkness. Coupled with intensive training in marksmanship, this rifle makes a sniper out of every parachute soldier.

However, German specialists consider that the rifle alone is insufficient for arming parachute troops. Therefore their equipment with heavy arms is considered just as important as the landing of the aerial party. Heavy arms, including field guns, are also landed with the aid of parachutes.

Surprise

[From an article by "Hyderabadi," in *The Journal of the United Service Institution of India.*]

Condensed by LIEUTENANT J. J. GLEASON, *Infantry*

Surprise is a *positive* element, a weapon to be wielded as thoughtfully and energetically as a body of troops or a formation of tanks. It is, indeed, the greatest weapon of them all. The popular conception of surprise is of the principle in its negative phase, the mere withholding of information from the enemy. This negative surprise is an inadequate thing because it simply puts the enemy on his guard and makes him wary of possible eventualities. Positive surprise, on the other hand, is to make the enemy *accept false information as true.* It commits him, in advance, to a definite and mistaken course of action, which can be used to bring about his undoing.

Consequently, the first essential in a commander's plan of action must be a bold and cunning provision for conveying false impressions to his enemy. He must make a definite "surprise plan" apart from the plan he makes to execute his real intentions. The more completely his "surprise plan" hoodwinks the enemy, the more simple his real plan may be. To ensure secrecy about one's true intentions is easy. But to work out a false plan, and get the hostile forces to accept it as true—not by means of such obvious ruses as to lead to doubts of its genuineness—demands careful preparation and staging.

One staff should not be saddled with both tasks; that of preparing the real plan with its many tactical and administrative complications and that of preparing the false plan as well. The latter task should be entrusted to a separate staff, led by a man of ingenuity with something of the practical joker in his makeup.

This staff of "jokers" should be allowed considerable latitude, and must be given loyal and active support by all ranks. Its main task will be the dissemination of false information among the enemy, to do which it will have to rely on the cooperation of all members of the force. Prisoners taken by the enemy, for example, must be primed to let slip important details of "preparations" behind their own lines. Misleading messages and orders must be allowed somehow to fall into the hands of the enemy. And so on. Yet it must be done cleverly or the enemy will begin to wonder rightly whether it isn't all "too good to be true."

Every security measure, as soldiers well know, is predicated upon an ignorance and uncertainty with respect to an enemy's intentions. Security, in a word, is simply an overall precaution against numerous conceivable lines of hostile action. Once the enemy accepts a "surprise plan" as true,

and commits himself to a counter-measure designed in reliance upon the deception, his security is immediately distorted, diluted, or abandoned, and he is ready for a whipping.

This article, of course, has nothing new to offer in connection with the principle of surprise. History teems with examples of deliberately planned, positive surprises being inflicted upon an enemy. But there is a big difference between the famous commanders of history and the ordinary plodding junior commander. The preparation of a "surprise plan" simultaneously with a true plan of action is not the prerogative of higher formations only. It should be an integral feature of the battle preparations of every unit from the highest to the lowest. Losses in men and materiel in "spoof" operations may be well worth while, and may contribute materially towards success in the genuine task to be performed.

Commanders must become "surprise conscious." Make the enemy think you're going to do what you aren't. That is positive surprise. It is the greatest, most paralyzing weapon the world knows and has ever known. It alone can win against immeasurable odds.

Tanks in Combat for Populated Areas

["Boy tankov za naselyonniye punkty," by Colonel I. Ziberov. Translated from the Russian by Lieutenant Joseph Dasher, ORC, from *Krasnaya Zvyezda*, 14 August 1940.]

The advance of tank forces upon populated areas will assume either the form of a blockade or an attack, frontal or flank. In any case it is advisable first of all to blockade the populated districts, locking up within them the enemy strength and matériel, and then to cut them off from other enemy forces.

The attack against a populated area without prior blockade is the most difficult form of combat and entails stubborn street fighting. Frontal attack should be employed only if the flanks of the populated district are inaccessible to tanks.

Street barricades hamper the tanks. When forced to fight against enemy firing from buildings, tanks will be unable to make full use of their fire against tall structures.

During street fighting two weak features in tanks will make themselves apparent. They are: poor visibility and poor audibility. Quite frequently tank crews will be unable to see and to fire at the enemy hiding in upper floors of a building. Due to this tanks are exposed, in a greater degree than under field conditions, to antitank gun fire, burning fluids, and to being attacked at close range with hand grenades.

The basic conclusion from all this is as follows: tanks and armored vehicles will be able to act effectively under these conditions only in close cooperation with infantry. Advancing shoulder to shoulder with tanks, the infantry will reduce their vulnerability, and by means of a special signal system will help the tanks in locating enemy nests, and in correcting the tank fire. At the same time the infantry is capable of fighting independently against the enemy hiding in upper stories of buildings. On the other hand, tanks can utilize their demolishing power against weak street barricades, and will fire into the lower stories of buildings, giving the protection of their armor to the infantrymen.

Only in rare instances, when the enemy is demoralized and is offering weak resistance, will tanks and armored vehicles be able to act without infantry against medium or large-sized cities.

From other details and information given by the author, it is quite evident that he bases his conclusions on the observation of Soviet tank action against Polish troops holding the city of Grodno, on 20 September 1939.

War Games for Battalion, Regiment and Division

[From a booklet entitled *Anleitung für die Anlage und Leitung von Planübungen und Kriegsspielen mit Beispielen und Aufgaben zur Führerschulung*, by Lieut. General von Cochenhausen, German Army. Translated and condensed by Captain O. C. Michelmann.]

It is believed that no better means than the *kriegsspiel*, or war game, has been devised for training commanders and general staff officers, approaching as it does the semblance of actual battle.

It demands definite decisions and orders for the commitment of troops, also being conducted within the realm of time and space thereby leading to exactitude in troop leading.—*THE EDITOR*

General von Cochenhausen's booklet on map exercises and war games was revised and reprinted a number of times prior to the present European war. In its introduction he deals with the smaller units, up to the company. He explains that a *map exercise* is one in which all participants are *on one side* in a war except the exercise leader, who assumes the role of the enemy and guides the exercise.

In a war game, participants are divided *between the two opposing forces* in the war situation, while the leader and

such assistants as he may have constitute the *war game control.* They guide it through a planned course.

Maps used in exercises and war games are on scales best suited to the size of the unit or units involved. For these units (battalions to divisions) maps of varying scale are used. Hachure, contour and shaded maps are used, and inexpensive, colored maps are recommended.

Washable colors and colored chalks are found useful for hastily sketching in communications nets. They are also commonly used to indicate areas under intense artillery fire and to designate reconnoitered or developed defensive areas.

It is General von Cochenhausen's belief that when certain tactical principles are to be described or when the language of command is to be practised in terms of larger units, map practice is of particular importance.

It is suggested that the reader now take up the discussion of map exercises and war games as the author treats it in that portion of the booklet dealing with the larger units, including the division.

* * * * * * *

A Map Exercise

A leader should confine himself at each meeting to definite combat methods or portions of them. A single exercise might be devoted to developing a reinforced infantry regiment for a meeting engagement. Another, to the occupation of a defensive position. A third, to the execution, at medium distance, of an approaching attack. A fourth, to the breaking off of an engagement. A fifth, to a retreating unit.

Extensive preparations are not required for map exercises. The situation and a general map are distributed a day in advance. Simple sketches indicating troop distribution are prepared and sent to exercise participants.

In order to have a minimum of misunderstanding or confusion in the issuance of orders, beginners are urged to practice them in advance. Orders to go into assembly position for attack should be practised, as well as those for the start of the attack out of assembly position and for the occupation of a defensive position.

Because of the constantly changing, varying and befogged conditions which develop on army fronts during irregular forward movement and in the advance of flank units or in broken front lines, a great deal is required of a commander by way of tactical judgement, power of decision and general versatility of command. These are factors which keep map exercises from becoming boring.

Since the combined action of the different weapons forms the background of the instruction, large scale map exercises fundamentally are carried on by combined weapons, especially infantry and artillery. The calling in of officers of the other weapons is recommended. They join in the war game control and at the proper time are called upon to report as to the capability of their own arm. Artillery officers, in passing, urge upon commanders of troops to dispatch clearly stated orders to the artillery. Medical officers tell the role they expect to play as battalion or regimental medical officers; how they expect to care for and evacuate the wounded.

The junior officer should first master the tactics of his own weapons. These are therefore given preference in map exercises for the individual officer. Infantry officers work out reinforced battalion problems; the cavalry, reinforced regiment problems; the artillery, such problems as arise when a detachment acts with an infantry regiment. For the engineers, the problem may be a river crossing by a company or battalion; to establish or clear a barrage zone, or to prepare a position. Intelligence troops will principally practice situations where a division intelligence section is employed, while certain other troops may have as their exercise the problem of transporting troops by truck or defending, in case of a raid by hostile cavalry against units in rear.

Such map exercises should not be neglected among the special weapons in which the tactical methods of the main weapons are demonstrated. Officers should not be trained purely as technicians but preferably also with the fundamental viewpoint of combat with combined arms.

Larger scale war games require proportionately more room in which to conduct them. Three rooms are generally sufficient, the size required depending upon the number of participants, largely. A number of tables and chairs should be provided, the tables being moved together as required. Illumination should always be good. Standing about the general situation map for long should be avoided, because it is tiring. In the main, it should be permitted only when troop symbols are changed or when a critique or orders concerning the terrain are required.

Once the initial situation is upon the map, the game leader usually mentally raises these questions: (1) What is the primary objective of the exercise? (2) In how many situations shall it be played? (3) How much time shall be devoted to each situation? (4) For purposes of the exercise, what are the game's high spots? (5) Which movements may be omitted?

While the orders issued should be regarded as models for future orders, too much time should not be spent discussing them. As errors arise, they should be briefly pointed out. In assigning positions for the game, they usually will follow lines of seniority. Staff team-work should be one of the main objectives. One officer may be assigned a number of minor positions.

The leader ordinarily should have one or more assistants to make announcements and prepare orders before and during the course of the exercise, to account for troop units in column or on the line, and to make notes the leader may want to use in the closing discussion.

In carrying on his map exercise, therefore, the leader must guard against a long introduction, undertaking too much, becoming lost in non-essentials and finally in being concerned too much with the progress of the game, as such. He should be concerned with the practice of command technique.

The exercise usually starts with an announcement as to position assignments, that is, who is to be commander, etc. Then the opening situation is explained, as indicated on the general map by symbols for the various units included in the exercise. After that, announcement is made of a message or an order which forces the commander into action. Thus the exercise is under way.

The commander renders his decision. It is followed closely by decisions of his subordinate commanders. After a brief lapse of time, if conditions change and warrant, troop movements start by shifting the symbols on the map. New information of the enemy is sought. The leader of the exercise calls upon the commander for his dispositions and discusses them. The exercise continues.

The game leader constantly strives for variation during the course of play and it remains in his control to lead the enemy so as continually to introduce new situations demanding prompt decision and action of commanders. He may bring on a surprise air attack over a march column or have artillery fire overtake a deploying battalion. Or, it may be dismounted cavalry attacking the flank of a commander's advancing artillery, or enemy tanks launching a surprise attack upon a company furnishing a point in the advance.

At the conclusion the leader will summarize what in the main was done incorrectly, point out where touching up is necessary and emphasize what principles of the map exercise are to be retained.

A War Game

Where the game is played with two parties, the purpose of the exercise forms the basis of all considerations: That which is to be represented. Is it to be an attack upon a position or a meeting engagement? A defense or a delaying action? A retirement or a pursuit?

Both party commanders are free to make their own decisions. However, in order to know the intentions of both party commanders and thus allow him to arrange the progress of the game and develop the most essential points of the instruction, the game leader requests that both party commanders indicate their intentions to him in writing. A combat situation which requires a tactical decision from each party commander at the close of the game is distributed to participants of the game, half of whom are assigned to the Blues, half to the Reds. Later, upon receipt of all solutions, the leader selects those which portray to best advantage the anticipated purpose of the exercise.

An occasional reprimand of a party commander for an error committed adds zest to an individual participant's instruction. For example, the error may have rested in faulty judgement of a situation, in incorrect calculation of time or in becoming involved in a meeting engagement contrary to mission. As a defender, the commander may have left his open flanks insufficiently secured and consequently be surprised by flank attacks.

Once the game leader has chosen his two party commanders on the basis of their written intentions, he readily determines along what lines to play and which achievements are likely. He studiously determines which methods will keep play on the right course and avoids everything which might tend to have a semblance of force or influence on his part. He strives to give the war game charm and reality, a natural development of acomplishments out of the thinking and desires of the commander.

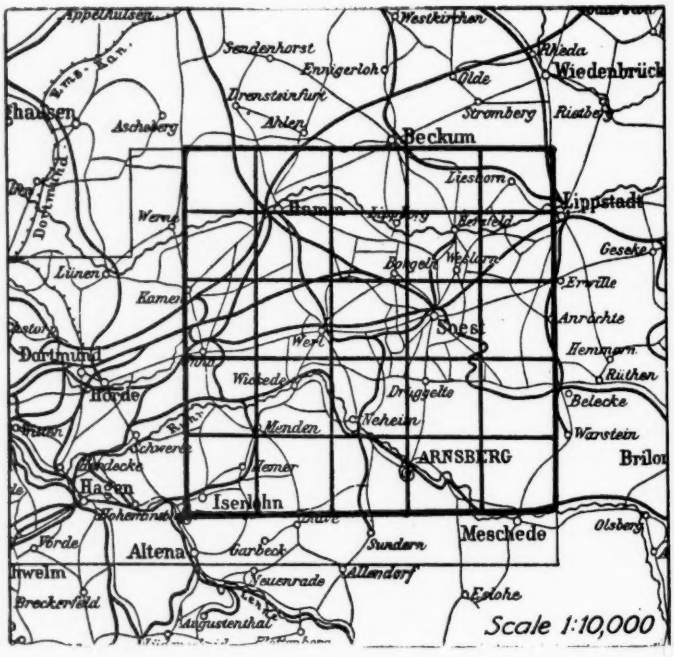
Control messages must keep the game on its proper course. They include orders of superiors, information concerning flank positions or information concerning the enemy. Not until shortly before or after a state of war may enemy information be prepared. Information in such messages must later coincide with tactical movements of the opposing force.

In assignments, seniority is followed in general only to the extent that junior officers are not designated party commanders. Years of service usually determine the subordinate commanders. Anticipating some specific tactical experience to be gained, officers take command of rifle and trench mortar companies, heavy artillery details, aerial squadrons, etc. Officers regarded as eligible for future staff work are assigned as staff officers. Intercourse between a commander and his staff should follow the same form as in actual warfare. In order to offer all officers opportunity of being heard from during an evening's exercise, some are individually assigned the duties of a number of minor subordinates. A few are usually retained for later special assignments under either party commander.

The leader should have one or more assistants. This relieves him of detail in laying out the general map and setting up the symbols, of knowing the position of given troops at any given time and of making special notes for use in his final discussion.

An assistant may be called upon to state when a report from a certain reconnaissance detachment will reach the party commander, when and where a certain detachment of troops in march column will receive an order from the party commander, or whether it is possible to recognize advancing or retreating units of an enemy force from an observation point.

As to calling in officers of the other arms to the war games, this is recommended as it was in the map exercises.



Here is a reduced view of the Soest sheet of a war game map. Scale: 1:10,000. This type of map, in colors, is recommended for economy reasons in preference to other larger colored maps (that is, by the Germans).

For two-party war games, three rooms are required; one for the actual game, another for the party not playing at the moment and a third into which officers of the playing party may retire for brief intervals. The general map is

placed upon several tables moved together. A blackboard is used to make sketches and general notes. The map should be used only for the war game. There should be as few copies of it about as possible.

War Game Control

To keep the game on war basis and to prevent it from becoming too long drawn out, the leader should conduct it so that every participant follows it attentively enough to be ready momentarily to discuss the progress of the game. Once a brief introduction is made and the initial situation drawn as taut as possible, combat should start. Long-winded reading of situation and initial orders of combat commanders should be omitted. They are known.

As play progresses, one party at a time is called to the general situation map. Enemy symbols are covered, except as initial positions are known. As additional enemy information is made known, the party commander asks if this changes his decision. If his subordinates are separated by space they are asked separately by the control. This tends to clear up differences in understanding or interpretation of orders or information. Interest is added at times when subordinate commanders are consulted for general views in weighty decisions. Decisions applying directly to subordinate commanders are ascertained first by control; party commanders' decisions later. Control may delay orders or munitions' supply and inject differences of opinion, thus developing particularly instructive representations through discussion. This emphasizes that in war only the simple things usually give promise of results.

Oral decisions, usually short, are made by party commanders. After a brief discussion of the first situation, the leader issues further information to the party commander, who in turn arrives at a decision and issues further orders. The control moves the symbols forward. Prior to closing with the enemy, the moves may represent one-half hour intervals; later, 10 or 15 minute intervals. A predetermined basis of logistics is followed for infantry and artillery on the march and in deploying for battle under day and night, good road and cross-country conditions. Similarly time schedules are set up stating time taken for a battery or detachment of artillery to go from position to opening of effective fire and similarly, to indicate time required to place from three to six batteries in coordinated effective fire upon a break-through position.

Play must be kept as simple as possible and control must not tell the party commanders too much about the enemy. The "fog of uncertainty" (Moltke) is a special attribute of war, to which training should expose commanders. Also, control should guard against the game degenerating into superficial conversation, where broad, general and frequently meaningless thoughts are expressed. The leader should strive to know constantly what the party commander wants to do, whether to attack or defend or withdraw.

A leader should be careful not to permit detection as to whether he agrees with commanders' decisions; nor should he influence the decision by asking leading questions. To do so, leaves the impression that control deliberately wants the game to follow a definite course.

In arriving at and reporting their decisions, parties shall first have considered that use has been made of all available units, down to the last reserves. In general, only the foremost line of battle of both parties is exposed, newspapers being used to cover artillery and reserves not yet in position. Both parties are careful not to divulge strength or composition when making reports. When play is ended, the leader covers positions of both sides and renders his decision.

His decision must be uncompromisingly just and convincing. It will necessarily be a credit to only one party. However, in arriving at his decision control will weigh what may have happened during the course of the play, following upon the initial situation and decisions of party commanders. If initial errors are corrected by proper methods, such corrections will be recognized. If errors creep in after a correct start, such faulty methods likewise will be pointed out.

Leaders will sometimes find commanders whose logical thinking may be somewhat befogged and discover that an incorrect decision was made by a commander merely because it made a better impression. By following the achievements of a game through logical reasoning, a good leader usually succeeds in revealing the inexpediency of such initial faulty decision to a commander.

IN CONCLUSION

Only the more important principal thoughts of common interest should be included in a closing discussion. It is recommended that it be a brief picture of the battle situation of both sides and a critique of both sides' initial decisions. High spots of the game should be dwelt upon briefly and commanders should be asked whether they accomplished their missions. Common errors should be pointed out such as, in issuing orders, whether general or special orders were in place; whether deployment was in too great breadth; whether strength was frittered away; whether effort of weapons was coordinated, etc.

Praise should be given where deserved. It means much to junior and subordinate officers, especially to those who have difficulty in appearing before groups due to a natural shyness. Unjust or sharp criticism should be avoided, since it paralyzes joy for service.

A critique is satisfactory when it tends to instruct and stimulate. Results speak for themselves.

Cavalry March Training

["Marshevaya podgotovka konnitsy," by Colonel M. Moiseyev-Cherkasskiy. Translated from the Russian by Lieutenant Joseph Dasher, ORC, from *Krasnaya Zvyezda*, 2 October 1940.]

Following the World War of 1914-1918 almost all military experts had agreed that the age of horse cavalry had passed forever, that there was nothing more left for it to do on the battlefield. It is true, of course, that the speedy development of technical equipment has transformed not only the army but the very nature of combat as well. It must be remembered, however, that horse cavalry has also undergone a change and that it now differs radically from its predecessor of 1914-1918. Is it possible to find today horse cavalry armed only with the rifle and saber?

While retaining the horse as its basic weapon, cavalry, like other arms, has absorbed the new and different weapons. Experience shows also that this new armament does not hinder the horseman, but, on the contrary, helps him greatly and renders cavalry units more mobile and speedy. Mobility, coupled with excellent armament and training of personnel, is the factor which permits the cavalry of today to perform even the most complicated combat missions.

Strategically, horse cavalry will be employed in mass for decisive attacks upon the enemy flanks, for exploitation of the breakthrough, and for action against the enemy rear. Great operative mobility will be demanded of it. This brings up the questions of the training of horse cavalry personnel, quality of horses, and the intelligent utilization of marching possibilities.

If one studies the actions of German cavalry corps of Marwitz and Richthofen, of Karnakov's cavalry unit in the breakthrough at Swieciany, the French cavalry corps of Sordet, and of the march of Soviet First Cavalry Army from the Northern Caucasus to the Polish Front (1920), it will be found that the distance covered in 24 hours during these operations amounted to 40 to 63 miles. During the operations in Western Ukraine and Western Byelo-Russia (1939), and in Bessarabia and Northern Buckovina (1940), the Red Army's cavalry divisions accomplished 43 to 63 mile marches in 24 hours. Finally, most instructive are the operations of a German cavalry division on the French front in June 1940. During the period of 16 to 23 June this division covered 225 miles, including time spent in engagements.

These examples concern large units—division and higher—and do not take into consideration the burden of maintaining security. It is known that security units (reconnaissance and march security), consisting usually of up to one-fourth of the main cavalry forces, will as a rule, proceed off the roads. Therefore, if the 24-hour march of a unit is 37 to 40 miles, then the security units will cover a distance 20 to 30% greater, i.e., 45 to 53 miles.

Red Army cavalry manuals agree with this. The normal march of a cavalry unit is determined to be 28 to 34 miles in 24 hours, and the forced march at 47 miles (in individual instances up to 62 miles). For security units these norms are correspondingly raised: the normal march, 37-43 miles; forced march, 60-62 miles (at times 75-81 miles).

The conclusion is clear. The personnel and animals of cavalry units must be trained to execute forced marches of 47 miles.

Some Hints to a New Staff Officer

[From an article in *The Royal Air Force Quarterly*, December, 1940.]

Condensed by MAJOR M. R. KAMMERER, *Infantry*

A good staff officer needs to possess wide service knowledge and be quick-witted, methodical, tactful and extremely thorough.

The staff is, or should be, the brains of the fighting forces. It must do the planning, the organizing and the looking ahead. Without its staff a fighting force would have as small a chance of ultimate survival as the enormously powerful dinosaur, with no brain capacity at all, had in prehistoric times.

Don't start then by under-rating your job. Really good staff work is still very rare.

ON HANDLING CLERKS

Enlist the interest of your clerk in all the subjects with which you have to deal. Encourage him to ask questions and to make suggestions. An intelligent and well-trained clerk should always be able to produce a good draft on subjects with which he is familiar; if he can do so he will save you a considerable amount of time.

Instruct him to question anything he does not understand. If he does not understand your letters and signals it may well be that the recipients won't understand them either.

ON THE RESPONSIBILITIES OF THE CHIEF CLERK

Always hold the noncommissioned officer in charge entirely responsible for the work done by the clerks in his office. It is his duty to check typed drafts and letters, and particularly to ensure that they are correctly addressed and dealt with. If your clerk returns you a badly typed draft, or letter, ring for the noncommissioned officer in charge and blame him for not exercising proper supervision. In short,

expect him to do his job, which includes the training of new clerks and the supervision of the others.

On Dealing with Files

Unless you are already familiar with the correct filing and minuting procedure, study it until you thoroughly understand the way in which files and correspondence are dealt with.

When tackling a full "In" tray, don't work through the files from the top one down. The file that has been waiting longest for action is probably the bottom one. The best procedure is to glance through the lot and arrange them in order of urgency and importance before you start work. If you have a lot of action on hand, files passed to you "for information" only should be passed on to the next officer and marked to be returned to you later.

A letter signed by the commanding officer, or by any other very senior officer personally, should be regarded as dynamite. If it has not already been seen by your Chief of Staff, take it to him at once and ask for instructions how it is to be dealt with. On no account send a reply, however correct it may be, signed by yourself.

Avoid unnecessary secrecy. Secret letters are a nuisance, particularly at units where they are comparatively difficult to safeguard in flights and sections. When you get a letter marked "Secret" regard it with a critical eye before continuing to deal with it as secret. A number of letters are marked "Secret" for no other reason than that the file they originated on was marked "Secret." A non-secret letter can legitimately be dealt with on a secret file without being marked "Secret." On the other hand, a secret letter, on a subject which is rightly secret, must never be dealt with on a non-secret file. Use your discretion in this matter. When in doubt err on the side of safety and secrecy.

Whenever personal action is taken, a note of the action should always be made on the appropriate file. Decisions given by your Chief of Staff should be noted in the same manner, if they are given to you verbally and not elsewhere recorded in writing.

The substance of telephone conversations should be recorded in the same way, as soon as possible after the conversation. The time of the conversation and the name of the person spoken to should be noted in the entry made. If the conversation was on a subject of importance, about which there might be future misunderstanding, always confirm the arrangements made, or the decisions arrived at, by letter at once. You will be surprised how many times your own version of a telephone conversation will be different from that of the other fellow.

When you have done with a file don't send it back to the registry without first considering whether other staff officers should not be informed. It is far better to overdo the circulation of information than to work in a water-tight compartment. Water-tightness may be all very well in the right place, but a Staff Headquarters is not the right place. Therein it inevitably means duplication of work, misunderstandings between branches, and quite often contradictory rulings going out to units from different staff officers, each signing himself "for" the same Chief of Staff who, if he finds out, will stress his dislike of appearing to be so vacillating in his decisions. So pass your completed file on to other branches in an order of priority based on their probable degree of interest.

A final tip, but a good one: refuse to acknowledge that any enclosure or minute in a file has been seen by you unless it has been initialed by you. Instruct your clerk to return any such letter which you may have passed into your "Out" tray without initialing. When you initial, it is wise also to add the date. This is a form of insurance both for you and your clerk, to make certain that when there are a number of fresh enclosures or minutes in one file none of them have missed your attention.

On Writing Drafts and Minutes

In writing minutes or official letters aim at plain, simple and clear English. Avoid long and involved sentences. Be as concise and precise as you can. Make good use of headings and sub-headings, as these are very useful, particularly if arranged in a logical order, to those people who may have to take action on your letter.

Unless you write a very clear hand, always have your more important minutes typed; don't ruin the tempers and eyesight of other officers.

Proper coordination of work between departments of a Headquarters is essential. Otherwise your work will be wasted, and units may receive conflicting instructions. The repercussions may be unfortunate.

In drafting any letter containing instructions, set it out for yourself first of all under the following general headings —which will not, of course, necessarily be included in the final draft:

(1) *Information.*—Give the persons you are writing to all the relevant information you can, and all important previous references. Put yourself in their places and ask yourself whether your draft contains everything you would require to know before you could take all the action required.

(2) *Intention.*—This is the most important section of your letter. *Always* give your (*i.e.*, your Chief's) intention clearly and in full. When units or persons properly understand the intention of orders or instructions they can be trusted and given latitude to implement them in the best way to suit their local conditions. Thus the aim will be attained everywhere with the minimum of detailed orders, and unit commanders will be able to take the right action in any unforeseen emergency without reference to your Headquarters.

(3) *Method of Execution.*—Provided the intention has been clearly and fully stated, a great deal of otherwise necessary detail can be omitted under this heading. Credit those to whom you are writing with intelligence and common sense unless you know with certainty that they have none. Expect them to act intelligently in accordance with the intentions you have explained to them. If they are unlikely to have the knowledge or experience to enable them to achieve the aim, then it is of course necessary for you to give the method of execution in detail. Likewise it is often necessary to give a method of execution in detail when you have to coordinate action between a number of different persons—but

here again it is often wiser, and results in greater efficiency, to get them together in conference to work out the method of execution for themselves. Remember that they will usually have a far more intimate knowledge of conditions at their units than you can possibly have.

Never forget that it is bad staff work to give an instruction without defining the intention behind it. Additional queries may arise, peculiar to a particular unit, which the C.O. will have to refer back to you unless he is able to answer them for himself, as he can nearly always do if he understands the aim of your instructions.

When preparing a draft for approval by a senior officer always include every point, however minor, which you think may be relevant. This will help to ensure that no detail is overlooked by the officer for whom the draft is prepared. It is also easier for him to delete than to insert in the draft.

Don't feel aggrieved if your carefully prepared, logically set out, and beautifully written draft is hacked to pieces by the senior officer to whom it is submitted for approval. The point to bear in mind is that the officer who is to approve your draft is entitled to have it to his own satisfaction, not yours, before he does so. Your best efforts can always be preserved for posterity above your own signature.

Study the styles of your C.O. and senior staff officers. They will be pleased, and you will save a lot of time and paper if you can prepare drafts for them as nearly as possible in the way they would write them themselves. You may not forge their signature, but you may forge their styles. As a matter of fact, there is a great deal of fun to be had in doing this, and if it does not improve your own style it will at least broaden your vocabulary. . . .

Conversely, when you have to check a draft submitted to you for approval try to resist altering it unnecessarily into your own words. Approve it as is stands, provided you are satisfied that its meaning is clear, its grammar sound, and that it contains all that should be in it.

Semi-official correspondence is to be avoided. As a means of dealing with important subjects it has the following disadvantages:

(1) The semi-official letter is generally slower than the official letter because it is addressed to an individual, who may change station, go sick or proceed on leave before it is delivered. In consequence any action or reply required may be held up indefinitely. Also the recipient may mislay it and fail to pass on the information it contains or take the action needed. In any case, there can be no check on action taken with the unit.

(2) It has no official standing and cannot legitimately be quoted authoritatively in subsequent correspondence on the same subject.

(3) It leads to the dangers of irresponsible "short-circuiting," because in correspondence between individuals the commanding officers of both individuals are apt to be forgotten.

Weigh these considerations carefully before you decide to send a personal note, and, more often than not, you will then decide to send an ordinary official letter instead.

If in writing a letter you refer to other letters, always attach these with the relevant paragraphs "flagged" when you pass your file on. Your Chief of Staff does not want to waste his time digging these out, or waiting while they are dug out for him. Being a busy man, he may take your file away with him to work on it in the train or at home, where he will not have the references available unless you have had the forethought to attach them.

Practice dictating when you have plenty of time. Don't reserve it until you are hard-pressed, because if you do you will find that you are not as good at it as you might be.

Before you ring for your stenographer to take dictation make up your mind exactly what you are going to say. Note on a memorandum pad the headings and sequence of your paragraphs, together with any particularly important sentences. This will save a lot of the clerk's time, as then he will not have to sit gazing out of the window while you struggle in the throes of composition. In short, do the thinking first and the dictating second. It is seldom practicable to do both really effectively at the same time.

After you have drafted a letter, an instruction or an order, read it through carefully to ensure that it contains no ambiguities and to check the addresses and references.

Before signing your name to a letter, check it carefully, whether or not you have previously approved the draft.

Never pass on to others any instruction, letter or signal which you do not completely understand yourself. Do not assume that it must be all right merely because it has eminated from higher authority, and pass it on in the pious hope that others will understand it even if you don't. Apart from any more dangerous ill-effect, you will feel remarkably foolish when explanations are demanded and you have to admit you did not know what you were doing.

On Dealing With Units

Deal with units sympathetically. Remember that Commanding Officers are very hard worked and responsible personages who do not exist to deal solely with your own special subjects. A Commanding Officer is the target of every branch in Command as well as in Group Headquarters. You exist to help him, not to make his task more difficult, or to criticize him whenever he fails to do what you think he should in respect to your own particular line.

Don't ring up other officers of a unit without the C.O.'s permission. If circumstances force you to do so, explain the said circumstances to the C.O. as soon afterwards as possible. A good C.O.—and you must assume they are all good—likes to know what is happening on his station.

When a Commanding Officer writes a letter asking for something, or proposing something, never answer "This cannot be done" or "This is not approved" without giving full reasons *why* it cannot be done or approved. He is entitled to this courtesy, and, unless he gets it, he will regard you as merely an ill-mannered obstructionist.

On Visit to Units

On visiting a station or unit you go there primarily to help and not find fault. You go to be constructive and never destructive. If you do find something wrong, your job is to put it right at once. Point out the fault and propose a remedy. Never order anything to be done unless you have had previous instructions from your Commanding Officer to

convey his orders. It is the job of the Commanding Officer to issue orders to his own unit, and his command has not been delegated to you.

On arrival at a station or unit on an official visit or inspection always report your arrival first of all to the C.O. Ask him if he will wish to see you again before you leave. Propose that he should do so, so that you can tell him of any action you may have suggested to his subordinates and what you propose to say in your final report of your visit.

You must be discreet about conversations you may have with Commanding Officers and other senior officers at stations, particularly if personalities are involved. Don't repeat them to junior officers. This warning should be unnecessary, but experience has unfortunately proved that it is not.

When you visit a station or unit you will almost certainly find yourself beset with queries and problems outside the scope of your own duties. Don't commit yourself to settling these problems personally. Instead, tactfully promise your help in referring the query to the right quarter.

On Staff Conferences

If you are summoned to a conference, or to discuss a subject with your C.O., try to anticipate the points which are likely to arise, so that you can be certain that you will have the correct up-to-date answers and the files or publications likely to be required for references. If you are caught not knowing an answer, never guess and run the risk of causing your C.O. to make a wrong decision based on inaccurate information given him by you. Say you don't know; or if you have any doubts about the correctness of your answers ask permission to confirm them.

You will then at least be in no worse case than the young officer who answered "I don't know" to five consecutive questions by his C.O., who, infuriated, then asked, "Is there anything you *do* know," to which the young officer replied with pride, "I do know you won't get any *inaccurate* information from me, sir—like you do from the other chaps!"

Antiaircraft Artillery Firing Against Aerial Landing Parties

["Strel'ba zenitnoy artillerii po vozdushnym desantam," by Lieutenant Colonel A. Grodzinskiy. Translated from the Russian by Lieutenant Joseph Dasher, ORC, from *Krasnaya Zvyezda*, 25 July 1940.]

Action against aerial landing parties should be conducted with all resources, by all arms, and particularly by aviation, antiaircraft artillery, and antiaircraft machine guns. For the protection of airdromes, landing fields, railroad centers, large bridges, and other objects, a powerful antiaircraft defense is organized. In rear areas and in the vicinity of antiaircraft defense zones, mechanized reserves should always be ready with the special mission of action against aerial landing parties.

The task of pursuit aviation and antiaircraft artillery is to destroy aerial landing parties, whenever possible, while they are still in the air, before landing. Aerial landing parties will be composed of the steadiest and best trained personnel. After reaching the ground, small landing units will assemble quickly, adjust themselves to the terrain and skillfully use the latter for their operations. Action against a party which has effected a landing assumes more complicated forms and requires more time, strength and means than action against it while it is still in the air.

Antiaircraft artillery possesses a sufficiently large and well organized net of OP's, which ceaselessly conduct observation over a wide area. Therefore the task of timely discovery and information regarding the appearance of aircraft and the release of parachute landing parties, rests upon the personnel of antiaircraft artillery, in addition to other information agencies.

The firing of antiaircraft artillery upon aircraft bearing parachutists or landing parties, is not different in any respect from the usual firing upon aircraft. After sensing the intentions of the enemy, from the type of aircraft (transport ships), their number, their increased special protection and other symptoms, it is necessary to direct all the strength of antiaircraft artillery fire at the aircraft in order to destroy it without delay, or to compel the enemy to abandon his plan of landing a party. Should parachutists be released, it is necessary to concentrate the fire upon them while they are still in the air.

Against a parachute party in the air, antiaircraft artillery fires by direct aim, without control instruments.

A technical treatise on the methods of aiming at parachute landing parties follows:

In each separate case, as in other methods of fire, wide initiative should be shown in firing against a parachute landing party. Antiaircraft artillery personnel should be ever ready for action of this kind. When unable to use a rangefinder, estimation with naked eye should be used.

For action against aerial landing parties, division and corps artillery of certain calibers may be designated.

A New Arm of the German Service

[From an article which appeared in the 11 October 1940 issue of the *Deutsche Volkswirt*, authoritative German economic journal.]

Condensed by Lieutenant J. J. Gleason, Infantry

Total war calls for total utilization of the economic resources of a nation. To accomplish this utilization Germany created in 1935 an Industrial Mobilization Staff, later known as the Industrial Mobilization and Armament Office. It is made up of engineers, experts drawn from civil commercial pursuits, and officers trained in cooperating with industry. Headed by a general of infantry, it is directly under the High Command of the Armed Forces.

The basic task of the new organization was, by coordinating industry, to arm, equip, and supply Germany for the projected "war of matériel." The German military success has shown how well this mission was performed.

A number of unusual problems had to be dealt with by the Industrial Mobilization authorities. For instance, in September 1939, the German plan of operations foresaw small losses of territory on the western front, and the Industrial Mobilization Office had to remove valuable matériel and machinery from the areas which might be taken by the French. Three thousand railroad cars full of machinery and supplies were sent back into the German interior. The civilian population was totally evacuated in a few hours. Workshops and factories were stripped of tools. When, a few months later, the French abandoned these border areas, the Industrial Mobilization Office reentered the areas and began to organize for renewed productions.

During the spring breakthrough, "economic officers" of the Industrial Mobilization Office were functioning immediately behind the troops. The staff of each field army included an industrial mobilization officer. To assist this staff officer a "technical unit" of trained industrial personnel was provided for every army. They were popular with the troops.

The general duties of this Industrial Mobilization personnel may be summarized as follows: (1) to support the fighting forces in every possible way; (2) to seize and preserve supplies of raw materials and manufactured articles; (3) to register, survey, and preserve all captured factories which might have military use; (4) to collect all armament left on the field of battle. In addition, they sought to prevent German troops themselves from doing any harm through carelessness to valuable plants and material; and, in extreme emergencies, would repair bridges and power plants essential to the troops. Repairs, however, were usually left to the labor units.

The defeat of France meant that now another nation had to be mobilized industrially. The army mobilization staffs, purposely kept small heretofore, were enlarged. A special organization was created, its head designated "Chief of Industrial Mobilization and Armament for France," abbreviated to *Wi Ru*. He is a member of the staff of the army of occupation. His staff has two subsections: Purchases, and Special Security. The duties of the latter subsection are not known. Subordinate to *Wi Ru* are four armament inspectorates, composed of purchasing officers, technical units, and salvage companies.

For administrative purposes France has been divided into five areas, with headquarters at Paris, Dijon, Bordeaux, Angers, and St. Germain. The commander of each area has an Industrial Mobilization officer on his staff. This officer retains material useful to German troops in France, ships other material to Germany, and supervises war industries in his area.

The industrial mobilization of France, though difficult, was carried out with rapid efficiency. Industrial Mobilization officers advised army commanders on industrial matters and directed the operations of the "technical units" under the Industrial Mobilization officers' command. Unique tasks had to be done. In Luxembourg, for instance, local economy had to be harmonized with the German economy. In parts of Belgium, where money and food had disappeared, starvation had to be fought. In the Namur area 400 coal mines and factories had to be put back into operation.

Lately the tasks of the Industrial Mobilization Office have become more routine, as the armament factories of western Europe are gradually resuming production. Occasionally valuable French machinery or reserves of raw materials are discovered. French machinery vital to Germany is sent across the border. Raw materials to the amount of 160,000 tons have been shipped into Germany.

Whether a French factory shall be operated in France by French personnel, or the machinery be dismounted and sent to Germany, is a question which is decided in the light of the military objective alone. If the machinery can produce more goods more cheaply in France it stays there. This happens often, for labor and raw materials are cheap in France and near at hand. Again, busy Frenchmen are not so restless as idle ones.

The Industrial Mobilization group does not actually operate the French factories. The factories continue under French ownership and direction, but a German commissar is put in each plant to keep an eye on things. The factories produce under sub-contracts given to them by German firms. Industrial Mobilization officers act as middlemen in the negotiation of these contracts, and inspect the resultant products. A special Industrial Mobilization bureau was set up in Paris to handle these contracts and this inspection. Its personnel is drawn from the Industrial Mobilization group and from the German Ministry of Economics. Before ordering, it consults with *Wi Ru*, and with the Industrial Mobilization staff officer of the army occupying the territory. Several hundred contracts, some large, have been thus awarded. The price is determined by normal German trade prices, though negotiation always takes place.

The Industrial Mobilization group has now undertaken the task of compiling statistics on the factory capacity and raw material resources of the occupied areas.

German Signal Forces

["Germanskiye voyska svyazi," from German Sources. Translated from the Russian by Lieutenant Joseph Dasher, ORC, from *Krasnaya Zvyezda*, 13 September 1940.]

This article is based on an article by Colonel Pleger, published in the *Militär-Wochenblatt*, and is much more interesting as one proceeds.

The actions of German forces in Poland and Norway, the coordinated shock operations of all three elements of the armed forces—the army, the navy, and the air force—were possible due to the perfection of technical means of liaison, and to the signal units of the army and the air force. During swift offensive actions of the armies it was extremely difficult to establish contact between the leaders and the troops, but the signal forces handled this problem well.

It was, of course, not easy for soldiers of German signal forces to establish liaison without falling behind the motorized units. They worked day and night, unwinding one cable drum after another, and repairing torn wire in Belgian and French territory. In a few weeks there was constructed the net of circuits, embracing the country for several hundred miles. Where there was a lack of wire, radio communication was functioning. Little has been said about this and perhaps this fact is the best appraisal of the work of signal units.

Old soldiers unwittingly compare the recent operations with the War of 1914. At that time signal forces were just being developed and reorganized. There were only 9 telegraph battalions, which had to erect the basic circuits for numerous large units and army corps. Radio was in the embryonic stage, it lacked range and functioned on long waves only.

At the present time, on the basis of World War experiences and the many years' work by the communication inspectors, Germany has large and strong signal units both in the ground forces and in the air arm. Above all, signal regiments have been created for all large headquarters. The engaged forces, and above all, mobile and motorized units, are equipped with modern radio. All of the achievements of modern telephone technique, which allows the possibility of having faultless audibility on the lines of communication between distant points, apparatus for the frequent utilization of circuits, intensifiers and other technical improvements, are employed by troops.

All of the signal forces are motorized. Higher German military leaders are well informed of the possibilities of liaison elements, and not one important technical operation, above all the transfer of headquarters, is undertaken without preliminary preparation and detailed discussion of this subject with the chief of liaison. The excellent collaboration of large columns and combat groups of the army, navy, and air force, could be realized mainly because of this preparation, and the capable utilization and constant activity of signal units.

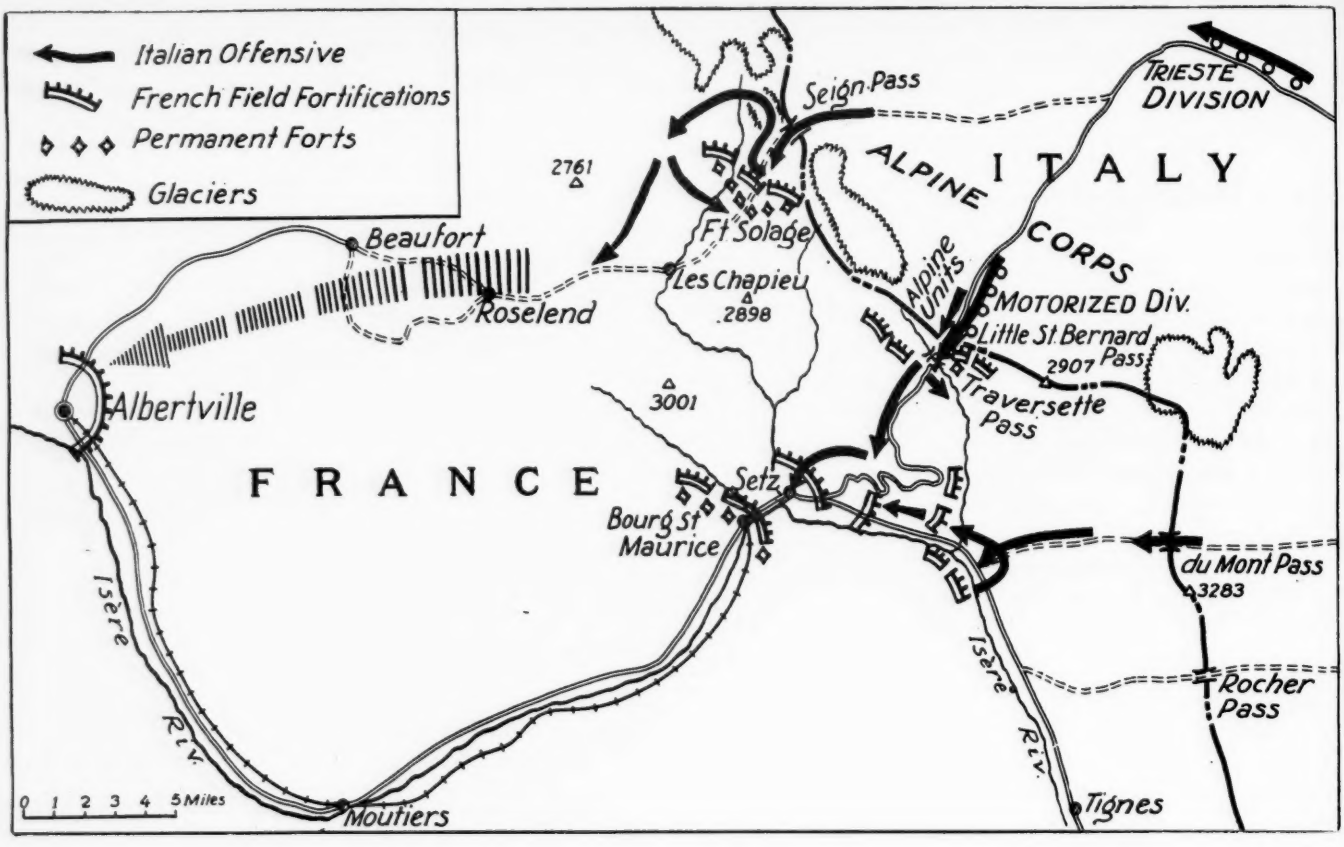
A typical example of the technical progress as compared with the year 1914, is found in the assault upon Liége. The attack on its forts in 1914 was not executed according to plan, because there was a lack of contact between the individual advancing columns. Now, in 1940, between the individual advancing groups there was maintained faultless radio communication. During the attack on Fort Eben Emael radio communication was maintained with parachute units which landed directly on the Belgian fortifications. This cooperation was instrumental in the general success of the entire operation.

Undoubtedly, the Polish campaign in 1939 was excellent training for German signal forces. What with the lightning-like tempo, swift change in the situation of headquarters, the rebuilding of demolished Polish telephone and telegraph exchanges and circuits, the restoration of telephone cables for long distances, the great expenditure of matériel, difficulty of bringing up supplies, etc. These were truly the great fall "maneuvers" for all arms, as a result of which the German forces secured great, frequently bitter experience. During the period of winter waiting at the Siegfried Line, German signal forces were constantly improving liaison between positions, and perfected their own training. Their work consisted mainly of collaboration with the postal service, and in utilization of the facilities at hand for preparing them for the offensive. The campaign in Denmark and Norway created still newer conditions, and confronted the German forces with other problems, as for instance, the utilization of large, partially international lines of communication and sea cables. A wide field of activity was assigned to radio for operative liaison at great distance.

Italian Operations in the Alps

["Italyanskiye Operatsii v Alpakh," by Captain N. Andreyev. Translated from the Russian by Lieutenant Joseph Dasher, ORC, from *Krasnaya Zvyezda*, 6 October 1940.]

The Italian Fourth Army, operating on the right flank of the Italian western front, had the following objective: through a blow in the direction of Albertville, toward the German motorized forces advancing from the north, to emerge in the rear of French fortifications. According to calculations of the Italian command, this maneuver, coupled



with the breakthrough to be achieved by the First Army in the maritime direction, should have brought about the collapse of the entire French defensive system.

In the principal direction—Little St. Bernard Pass—Albertville—an Alpine army corps acted, and in the auxiliary direction—Mt. Cénis, Bourg St. Maurice—the I Army Corps.

* * * * * * *

The Alpine Corps, consisting of two Alpine divisions, five separate Alpine battalions and a battalion of blackshirt militia (totaling 19 battalions), reinforced by four artillery battalions of corps artillery (from the resources of the IV Army Corps on the left flank), took up the initial position for the beginning of the offensive, in the sector stretching southward from the Seign pass. In this sector were the French fortifications at Solage, the Traversette forts, situated directly at the border, and the Bourg St. Maurice fortified region, covering the Isere river valley. The garrison of these fortifications consisted of 3,000 men with 350 machine guns and 150 guns. Besides this, in the zone of offensive action of the corps the French had 18 battalions of field forces with 60 guns.

To the Alpine Corps, advancing on a 21 to 25 mile front, was assigned the task of capturing Chapieu, Setz, Tignes, to demolish the Bourg St. Maurice fortified region, and to continue the offensive against Beaufort, Albertville.

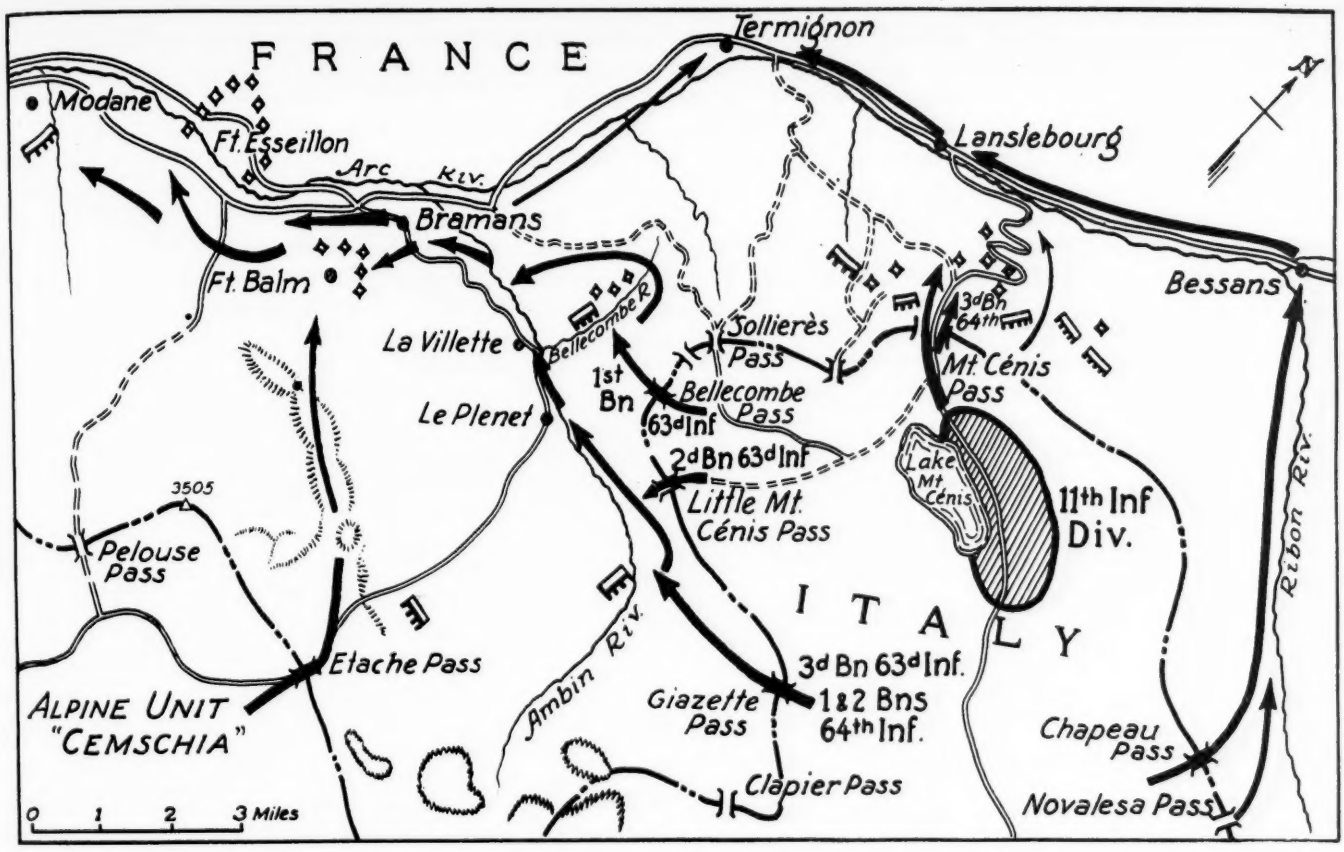
The principal blow was delivered by the right flank (eight Alpine battalions) over the Seign pass.

The offensive began on the morning of 21 June. The right column, emerging from the Seign pass, was stopped by strong artillery fire from the Solage fortifications. After covering several kilometers over the glaciers, the Alpine rifles outflanked the enemy position, and up to the moment of the Armistice one part of the column charged on the line Roselend, while the second was completing the encirclement of the Solage fortified region.

The central column, getting over the Little St. Bernard pass, found itself under artillery fire from Fort Traversette and also was stopped on the very border. To relieve the Alpine units there came up the Trieste motorized division. At 11 o'clock the motorcycle battalion of this division slipped through the pass and under cover of fire began to move fast towards the Isere river valley. Two kilometers from the border the motorcycle battalion encountered a demolished bridge, and after dismounting proceeded to ford the river under heavy machine-gun fire. At the same time, in spite of heavy losses, engineers had restored the bridge.

On the following day (22 June) the tank battalion of the motorized division, after passing across the front of the motorcycle battalion, lost one tank on the mined field and stopped. One battalion of the 65th Motorized Regiment attempted to emerge in the rear of Fort Traversette, but was counterattacked from the flank by French infantry, protected by field fortifications, and stopped its advance. Other battalions of the motorized regiment, reinforced by machine-gun units, relieved the motorcycle battalion, and renewed the advance on Setz. At the same time the left flank column, after overcoming weak French resistance, descended into the Isere river valley, and also began to advance upon Setz along the right bank of the river.

At 1:30 o'clock on 25 June military operations ceased. To that time the central column had captured Setz. Fort



Traversette, however, reinforced by the garrisons from the field fortifications, continued resistance, and continued to hold under its fire the Little St. Bernard pass. Thus the objective assigned to the Alpine Corps remained unattained.

* * * * * * *

Somewhat more successfully operated was the I Army Corps, advancing in the sector from Mt. Cénis to the Étache pass, along a front of 25 miles. The corps had to break through a line of border fortifications and emerge on the line of Fort Bessans, Lanslebourg, Bramans, Modane, and, turning north, to advance on Albertville.

The corps consisted of the 59th Infantry Division with added Alpine unit "Cemschia," the 11th Infantry Division with the Alpine unit of Colonel Cobianchi, two Alpine "Boccaliatte" battalions, and other corps elements. In operative respect, the Superga Infantry Division, advancing to the left of the corps, was also subordinated to the latter.

The principal forces of the division proceeded in three columns on Bramans, and thence on Modane along the Arc river valley. The principal column of the division, consisting of the 1st and 2d Battalions of the 64th Infantry, and the 3d Battalion of the 62d Infantry, moved through the Giazette pass and further along the Ambin river valley. The 2d Battalion of the 63d Infantry advanced to the right over the Little Mt. Cénis pass to Le Plenet, where it was to join the main column. The 1st Battalion of the 63d Infantry, advancing over the Bellecombe pass and valley, had to reach the La Villette region in order to join the main forces.

On the right flank advanced the "Boccaliatte" Alpine unit, with the objective of capturing Bessans. To the left, in cooperation with the 59th Infantry Division, over the Étache pass, advanced the "Cemschia" Alpine unit. This unit had to emerge against the flank of the Modane fortifications, simultaneously with the approach of the main forces to take this point. The second echelon, in the Mt. Cénis lake region, consisted of the 11th Infantry Division.

The directions Mt. Cénis—Lanslebourg and the roads to Bramans, were protected by permanent French fortifications. These fortifications were built in cliffs and consisted of reinforced concrete constructions, each armed with two machine guns and one antitank gun. On the lower story of the fortifications were stores for ammunition and provisions, and room for rest. All the approaches were within good range, the most important sectors were mined and had various antitank obstacles. The permanent garrison of these fortifications consisted of 4,500 men, and in addition to this two divisions with 60 tanks and artillery were stationed in this sector. It should be noted that during the operations it rained or snowed all three days and there was a dense fog. After midday on 21 June the main column (three battalions) descended from the Giazette pass into the Ambin river valley. The encountered obstacles and the strong fire forced the column to turn right in order to flank the positions from the north. Here the column was reinforced by the 2d Battalion, 63d Infantry, which had easily overcome the weak French resistance at the Mount Cénis pass. After assigning to small units the task of liquidating individual enemy groups remaining in the rear, the column continued its advance on Bramans.

Upon meeting at a chapel, the individual columns of the 59th Infantry Division reached Bramans toward the

close of day on 22 June. Here the Italians limited themselves to the suppression of field fortifications by artillery fire. Following this one battalion proceeded toward Termignon to meet the "Boccaliatte" column, and the other four battalions turned toward Modane. In the meantime the "Cemschia" Alpine unit, sent over the Bramanet mountain, having met no resistance, emerged in the rear of the fortification at Balm. On 23 June the 59th Division easily captured these rather weak Balm fortifications and, after joining the "Cemschia" Alpine unit, continued to advance upon Modane. Meeting in the Villarodin and Esseillon region strong fortifications, protecting Modane from the east, the Italians went around them from the south. The artillery was given the task of silencing the fire of these fortifications.

The Armistice found elements of the 59th Infantry Division beyond Villarodin, 2 - 3 kilometers from Modane.

Somewhat differently developed the action in the Mt. Cénis—Lanslébourg direction, where the French offered stubborn resistance to the 3d Battalion of the 64th Infantry. The road along which this battalion advanced was mined and protected by anti-infantry and antitank obstacles, while all the approaches were exposed to fire. In this direction were sent the Alpine unit of Colonel Cobianchi, a battalion of the 231st Regiment and a tank battalion of the 11th Infantry Division. However, two tanks which struck mines and were disabled, blocked the road for the entire tank battalion, while the Alpine riflemen and the infantry could overcome French resistance only with heavy losses and moved forward slowly. Well concealed French machine-gun nests permitted small Italian units to pass them, and then fired in their rear.

Armistice found the Italians here on the first line of French fortifications, which continued to resist, in spite of the fact that Lanslébourg, in the rear, was already occupied by the "Boccaliate" Alpine unit. The Alpines, after crossing the border over difficult, snow-covered Chapeau and Novalesa passes (altitudes 3,298 and 3,209 yards), descended into the Ribon river valley, and not meeting any French forces, which did not anticipate the appearance of the enemy at this point, occupied the Béssans settlement. Advancing then along the Arc river valley the Italians emerged in the rear of the Lanslébourg fortifications. Upon capturing Lanslébourg and relieving the situation of the units which were advancing upon these fortifications from the front, the "Boccaliate" column moved against Termignon, where it joined the battalion of the 59th Division, sent from Bramans. In this manner the task assigned to this Alpine unit was fulfilled.

As a result of the 4-day engagements in the Alps, the units of the Italian Fourth Army, which were operating in the direction of the main blow, advanced to the depth of from 2½ to 11 miles, but the border line fortified zone was not pierced in its full depth in any one direction. A part of the outflanked and encircled French fortifications continued to resist even after conclusion of the Armistice. Due to inclement weather aviation was not employed.

The failure of the Alpine corps, which on 21 June undertook to advance upon Bourg St. Maurice, may be explained by two reasons:

(1) The initial grouping of Italian forces in this direction was weaker than that of the defenders. The Italians had 18 battalions of Alpine troops, 18 mountain batteries and 12 batteries of corps artillery—altogether 120 guns; while the French had 18 battalions and 3,000 men of the garrison of fortified zone and 150 fortress and 60 field guns.

(2) At first the Alpine mountain units were used in a wrong manner for frontal advance against a fortified zone. An Alpine unit, having rather small attacking strength, but being greatly maneuverable, should have been employed for maneuver only. An example of proper employment of Alpine forces was set only by the "Boccaliatte" Alpine unit, which advanced where the French did not expect the enemy to appear, and by the "Cemschia" Alpine unit, which outflanked the enemy after climbing over the Bramanet Mountains and finally, by the passage of right columns of the Alpine corps over the glacier.

From the review of this Alpine operation, the following conclusions may be drawn:

In the mountains the employment of tanks and other means of speedy movement is rendered difficult. The employment of aviation for tactical purposes is greatly limited as it is helpless against fortifications built into the mountains.

The basis of mountain warfare is the maneuver, with maximum utilization of all the elements at hand. There are impassable mountain regions; the most difficult routes are frequently most convenient for attaining the element of suddenness and for gaining the opportunity for outflanking.

The Italian Military Thought from the Napoleonic Wars to our Days

["Il pensiero militare italiano dalle guerre napoleoniche ai nostri giorni," by General Pietro Maravigna. Translated from the Italian by Lieutenant B. E. Vinardi, Finance-Reserve, from *Rassegna di Cultura Militare—Rivista di Fanteria,* February 1940.]

[*Editor's Note:* While this was written before the German invasion of Western Europe, it is nevertheless very interesting in the light of Italy's present position in the war.]

The article considers five phases of contemporary military thought, which may be partially condensed as follows:

(1) *The Conditions of War Before and After the 1914 World Conflict.*

Between 1900 and 1920 the military thought of the past two centuries attained its highest development. The method of fighting changed during the World War from the use of arms to the use of a group of arms and to the employment of formidable armed masses and large warships. The unexpected inventions of the airplane, telephone, wireless, motorcycle, automobile, and of automatic weapons and tanks were made adaptable to war, and increased enormously the destructive power and mobility of forces operating in war. The change in the method of warfare is traceable to new economic, political and social conditions and to scientific progress. Aviation has made an armed force infinitely more powerful, but has simultaneously created an economic problem of primary importance, requiring the direct or indirect cooperation of the entire population in order to supply materials and food for the armed forces. (This is because the line of communications under aerial threats is much more difficult to maintain.) The military philosophy of the "nation in arms" has recognized the necessity of integral organization of all the activities of the people in the State. Hence, military thought is of more importance than ever before, particularly in a totalitarian regime.

(2) *The "Nation Organized for War."*

After the World War disarmament was rapid and exhausting, leaving only the skeleton of a fighting force on land, while on the water the Mediterranean was no longer freely open to Italy. It was necessary to reconstruct a military organization, and such was done to the tune of "Giovinezza" by individual and collective sacrifice. In the twelfth year of the Fascist regime there was consecrated judicially the beginning of the inseparability of the function of citizen and soldier. In essence, military thought is realistic and coordinates all activity for its own purposes and functions.

(3) *The New Order of the Army.*

Under the doctrine of General Pariani, fascist war is a dynamic war consisting of a recurrence of rapid movements, blow swiftly following blow, assaults and penetrations—the whole being made possible by the use of more divisions than hitherto, coordinated with and assisted by artillery. The following conditions are provided for in attack:

(a) Precise unit mobility
(b) Elasticity of use
(c) Increased offensive power.

An integrating preparation coordinates all forces: land, aerial, and naval. The synthesis of the whole fascist thought is the motto "to prepare and to dare."

(4) *The Naval Thought.*

The rebirth of the navy was inspired by the desire for no naval inferiority in the Mediterranean and the ability to act independently on the water. The present naval thought encourages the use of aerial naval photographs, airplanes with warships, speed in action, ambush under water, coastal bombardment by the navy, decisive offensive operations in mass, and full cooperation with the other forces.

(5) *The Aerial War.*

Although this branch of warfare is relatively young—about twenty years old—it has developed substantial and well defined scientific principles. General Douhet, of the Italian Army, created the military doctrine of aerial warfare based upon the supposition of quantitative and qualitative superiority. The fundamental principle is to strike without restraint or limitation upon all the essential organs of enemy life. It is of no importance that destruction is widespread and indiscriminate, if the enemy government and people are forced to surrender. Morale is the important element to be attacked. Aerial warfare has many possibilities both over land and sea, and can be effectively coordinated with ground operations, as has been demonstrated in Poland by the German air force.

Conclusion

In the 150 years of Italian military thought considered in this series, three periods are distinguishable:

(a) All the first half of the nineteenth century—the period of stationary troops
(b) The balance of the century up to about 1920—the period of the "armed nation"
(c) The Fascist state—"the nation organized for war."

Italian military thought is inspired by the Napoleonic principle that work in peacetime must be methodically organized, socially, spiritually, militaristically, and in every technical phase.

"Therefore, the more lively the attacks are, the less men they cost. By making your battle short, you will deprive it of the time, so to speak, to rob you of many men. The soldier who is led by you in this manner will gain confidence in you and expose himself gladly to all dangers."

—Frederick the Great

Academic Notes

Current School Material, Which Affects Instructional Procedure or Tactical Doctrines

---

BRIGADIER GENERAL E. L. GRUBER, *Commandant*
COLONEL K. B. EDMUNDS, Cavalry, *Assistant Commandant*
COLONEL M. C. SHALLENBERGER, Infantry, *Class Director*
LIEUTENANT COLONEL D. C. SCHMAHL, Field Artillery, *Secretary*

CHIEFS OF SECTIONS

Command Section	LIEUTENANT COLONEL G. R. COOK, *Infantry*
Administrative Section	LIEUTENANT COLONEL A. P. THAYER, *Cavalry*
G-1 Section, Personnel	LIEUTENANT COLONEL W. A. COPTHORNE, *Chemical Warfare Service*
G-2 Section, Military Intelligence	LIEUTENANT COLONEL R. L. BURNELL, *Field Artillery*
G-3 Section, Operations and Training	LIEUTENANT COLONEL P. A. HODGSON, *Corps of Engineers*
G-4 Section, Supply and Evacuation	LIEUTENANT COLONEL T. M. CHAMBLISS, *Infantry*
Extension Courses	LIEUTENANT COLONEL A. J. MCFARLAND, *Infantry*

Traffic Control

BY

LIEUTENANT COLONEL A. R. WALK, *Infantry*

TEXTS: *FM 100-10, Tentative Field Service Regulations, Vol. II, Administration.* Study Chapter 8, Traffic Circulation and Control. *FM 101-5 SOFM—Staff and Combat Orders.* Read paragraph 3, Traffic, of Form 6 complete Administrative Order, Page 99. *FM 25-10, Motor Transport.* Paragraphs 94, 114-117.

	Paragraph
Introduction	1
Definition and object of traffic control	2
Agencies concerned	3
Traffic control on the march	4
Plan of traffic circulation	5
Military police in traffic control	6
Training of drivers	7
Defense against air and mechanized attack	8
Traffic control at bridges	9
Traffic control in the theater of operations	10
Salient features	11

1. INTRODUCTION.—Traffic control and circulation are intimately related to tactical and logistical operations. If traffic moves freely, troop movements, supply, and evacuation may be accomplished with little difficulty. If roads become blocked, either through failure of the roads physically or through failure to use them properly, operations are bound to suffer and supply and evacuation may break down.

During the first World War, just prior to the Meuse-Argonne offensive, the American Commander issued detailed instructions in regard to traffic control. His instructions closed with this statement, "The success of the operation in which this army is engaged depends in great measure, upon excellent traffic control and uninterrupted circulation on all roads."

During the recent Battle of France, the failure to control civilian movements and to prevent traffic jams contributed largely to the fall of France.

In our own service, when we consider that one square division moving at 25 miles per hour occupies nearly 85 miles of road space, the need for traffic control can be visualized.

We shall limit our discussion for the most part to traffic control and circulation within the infantry division. Finally, we will touch briefly on control of traffic behind the division area.

2. DEFINITION AND OBJECT OF TRAFFIC CONTROL.—The term *traffic control* means regulation of the movement over a road or road net of persons, animals and vehicles. Traffic control, correctly applied, helps all units to arrive at their destinations safely and on schedule. To accomplish its mission, traffic control sets up safeguards as the situation requires. It prescribes and enforces rates of movement determined as safe and efficient. When necessary, control provides for movement over separate roads for units segregated as to direction, as to their speed and weight of loads. Finally, control furnishes information through maps, road signs, traffic police and published regulations—all of which are designed to help keep traffic moving in its proper direction on the proper road and at the proper time. A traffic control mission well carried out results in a minimum of accidents, of congestion and of delay.

3. AGENCIES CONCERNED.—The principal agencies concerned with traffic control are G-4 section of the general staff, the corps of engineers, military police, the signal corps and organization commanders. FM 100-10, Tentative Field Service Regulations, Vol. II, Administration defines the responsibilities of these agencies in the following paragraphs:

"457. The provision of a plan of circulation, when required, the determination of the control measures required, and the supervision and coordination of the acivities of the various other agencies involved in traffic circulation and control, are functions of the G-4 section of the general staff of the headquarters which controls the area involved.

"458. The maintenance of the existing roads, and their improvement and extension where feasible; the provision of suitable road maps; and the posting of signs along the roads indicating routes, localities, and establishments as shown on the maps, and other signs to facilitate traffic are functions of the corps of engineers.

"459. The enforcement of regulations and orders for the control of traffic, and assistance to traffic by giving information and directions along the route, are functions of the military police.

"460. The provision of means of communication by telephone, telegraph or radio, between traffic control posts of the military police, or other agencies involved in traffic control is a function of the Signal Corps."

* * * * * * *

"462. The training of organizations and of individual drivers in the proper use of the roads is one of the important responsibilities of organization commanders."

Let us take a few situations and see how some of these agencies function in traffic control. First, let us discuss a march.

4. TRAFFIC CONTROL ON THE MARCH.—*a.* Before a march begins certain arrangements and preliminary plans must be made which will assist in traffic control. A warning order should be issued by the headquarters controlling the movement which will give the composition of columns, the hour of departure, routes, initial points, destinations and other details which will facilitate the movement.

b. If the movement is to be made in the United States, military personnel should cooperate to the fullest extent with civilian agencies. The unit engineer should promptly establish contact with the State Highway officials and with the local representatives of the American Automobile Association to gain information of road capacities, conditions of roads, and bridges, critical points, bottlenecks and other

pertinent information. The Provost Marshal should immediately communicate with the State Police and Highway Patrols in the vicinity as well as the local police of towns. If highway patrolmen are available, a request should be made to have a few motorcycle police prevent interference with the columns on the highway, block off traffic at important intersections and guide the column through small towns. Large cities should be by-passed whenever possible, but if it becomes necessary to pass through them a police escort should be requested of the local chief of police.

c. Frequently in moving a motor column from one locality to another, organization commanders cannot rely on obtaining assistance from civilian traffic agencies. They must provide for control by using their own personnel. Control of a motorized column or convoy is exercised mainly through a march order which will provide for the details referred to above in the warning order.

Control is further exercised by the use of strip maps or road maps, route markers, guides, signs and escorts employing the block system. Traffic-control personnel are taken from the organization itself or from the personnel of the convoy. Procedure for route marking and guides is as follows:*

A route marking detail in reconnaissance vehicles will move out sufficiently far in advance to permit marking the route without interference with the marching column. Assume the officer in charge has made a map study of the route to be followed and estimates that he will need 12 markers for the route. The marking detail will be placed in three reconnaissance vehicles in the order A, B, C (see Chart 1). B and C each carry five soldiers as markers while A carries only the officer and driver. Let X be the position of the first marker to be posted.

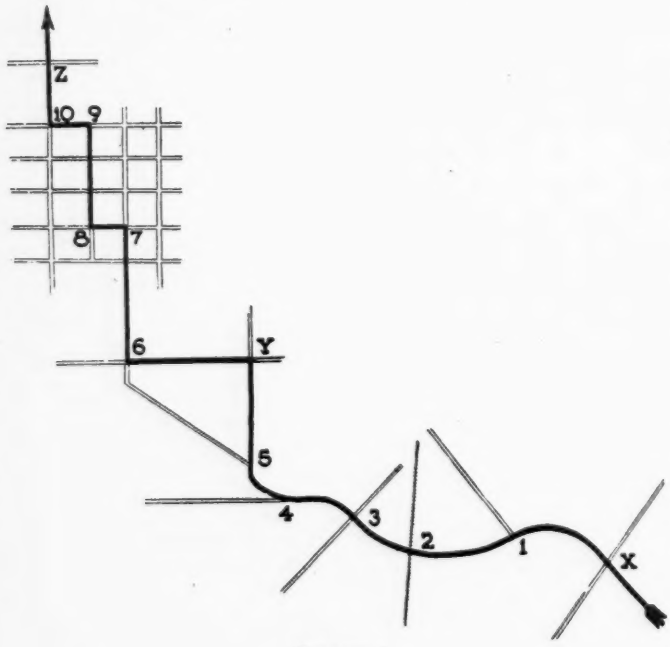


CHART 1

(1) On or before reaching point X, the officer gives to the driver of vehicle A instructions for marking point X. The driver parks the empty vehicle and assumes his position as marker. The officer then mounts vehicle B, now at the head of the column, where he will be able to control the movement of the party and be in position to give instructions to the next marker. In a similar manner Markers 1, 2, 3, 4, and 5 from vehicle B are posted in order.

Vehicle B is left at point Y, the driver acting as marker for that point; the detail proceeds, posting markers from vehicle C in the same manner.

(2) When the march column clears point X vehicle A follows and picks up markers 1, 2, 3, 4, and 5 and then joins the rear of the column in a position just ahead of the last motor officer or repair truck. A distinctive marking or flag should be placed on the last vehicle in the column so that members of the marking detail will surely identify the end of the column.

(3) In like manner, when the column clears point Y, vehicle B follows and picks up markers 6, 7, 8, 9, and 10 in turn. These loaded vehicles remain at the rear of the column until a halt or other condition permits them to pass the column and rejoin the officer.

(4) The personnel used for marking may be reduced by the use of signs in daylight. Signs should be large enough for the driver to see as he passes. They may be placed on a flat surface or merely consist of an arrow indicating direction and the route number or letter. *It must be borne in mind that signs are only aids to traffic control. Men must actually control the traffic.*

(5) During darkness, men acting as markers should be equipped with flashlights which have been covered with one or two thicknesses of blue denim or flashlights with green or blue bulbs. Luminous or reflector signs should be used at narrow or dangerous places where no change in direction is involved.

(6) Behind this marking detail may be a detachment of traffic police, under direction of an officer, who would drop off men at critical points previously selected from the map where traffic would have to be blocked off or controlled. If traffic police are not available the men acting as markers will also act as traffic police.

d. Let us take another situation. Assume an infantry division in the combat zone is to move secretly from some rear area to an assembly position behind a thin cavalry screen.

How would traffic control be exercised? What will be the duties of the military police and the engineers in such a movement?

As soon as possible G-3 and G-4 or their representatives would contact the representatives of the cavalry force and gain information regarding routes and road conditions. This information would probably be meager. It would be amplified by information procured by small reconnaissance parties, maps and airplane photographs. Small detachments of engineers would reconnoiter the routes, check available maps for accuracy and study the road net. G-3 and G-4 would assemble representatives of the engineers, of the military police, and of organizations and after considering all available road information would make plans to control the march. If possible, marking of routes would be made beforehand by engineer detachments. If it could not be done prior to the march then marking of routes would be done as described above for the motor convoy. Plans would include

*Cf. FM 25-10, pp 82-83.

getting traffic off roads at the destination and into assembly positions quickly.

The engineers would prepare road signs both for the route and for use of the division in the new area. Organizations would also prepare markers for use in their new areas. Road strips and road maps would be prepared for the use of officers and drivers of motor vehicles.

Assume the division moves in 3 or 4 columns. Let us discuss one column. The column would be preceded by reconnaissance and security detachments. Preceding the main column by as much time and distance as possible would be detachments of engineers and military police. The detachment of engineers would be prepared to remove obstructions along the route of march, place detachments at bridges and reconnoiter for alternate routes in case bridges would go out. They would be prepared to repair hastily the roads where needed. Behind the engineers would be a detachment of military police, under direction of the Provost Marshal, who would drop off men at critical points previously selected where traffic would be blocked off or controlled.

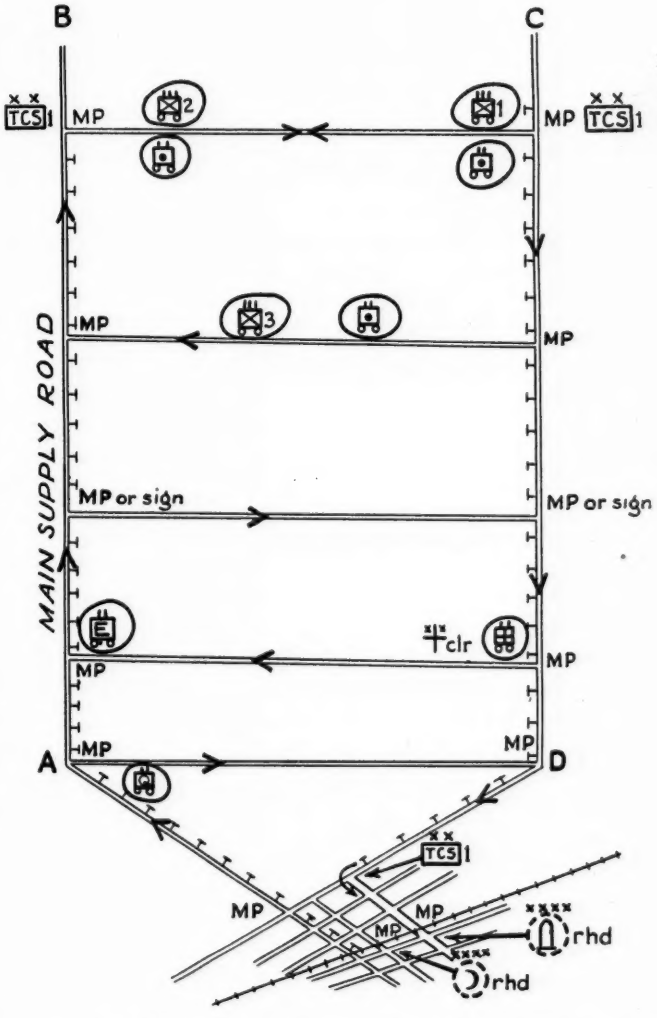
Prior to their arrival at their destination, units would be prepared to send forward at high speed officer guides to designated points at or near the assembly position. Engineers and other division staff officers having preceded the column would point out to guides on the ground the locations of their areas.

If it is possible, assembly areas for the various units should be reconnoitered, and alternate assembly areas reconnoitered, with guides from units posted, before the movement begins. Officers and other guides travelling at high speed would then be needed only to divert columns to the alternate assembly areas when information is received that such a diversion is necessary after the movement starts. High speed guides are emergency measures and should be used only where the situation makes such guides necessary.

e. The provost marshal would then devise a traffic circulation plan on the ground and would post traffic police at once. These would be temporary measures. In addition, as soon as an area is occupied by an advancing force, the unit engineer initiates and maintains a system of road reconnaissance, route marking and frequent inspection of roads. He causes signs to be posted warning against dangerous points and impassable sections of the road as well as posting signs concerning maximum bridge loads and use of bridges. He makes recommendations to G-4 on traffic restrictions and circulation in the area. After adjustment by G-4, division headquarters issues detailed instructions to the provost marshal who in turn, places these instructions in operation through the medium of the military police.

5. PLAN OF TRAFFIC CIRCULATION.—*a.* The plan of traffic circulation adopted should be the simplest one that will fit the situation. When traffic is light and an ample road net is available few, if any, restrictions will be required and standing operating procedure will be sufficient to take care of traffic.

b. As the density of traffic increases, standing operating procedure will be augmented by additional traffic control and traffic restrictions. Animal-drawn traffic, because its presence greatly hinders motor traffic, will have to be prohibited from the main roads. One-way traffic is provided for a road which carries a particularly heavy traffic, provided a satisfactory return route is available. It may be necessary to provide that on a certain stretch of road, where a separate return route is not available, traffic proceed in one direction during certain hours and in the opposite direction at other hours.



c. The chart given above shows in diagrammatic form traffic circulation in the rear of a division area. The first step in the preparation of a circulation plan is the selection of the road or roads for supply. The rearward end of this road must tie-in with the circulation prescribed by the corps or army, and with the roads to be used in moving supplies from the railheads and other supply points. The next step is to select one or more outbound roads. If the supply road is a good two-way road, the outbound vehicles may be routed over this road and the circulation plan will present few difficulties. Suppose we have only two good roads coming in to the area as shown on this chart. Then the main in-road would be the main supply road and the other the out-road.

d. Having selected the inbound and outbound roads, the next step is to fix tentatively the direction on lateral or connecting roads and to coordinate it with the location of train bivouacs and the supply and evacuation establishments.

e. The following points should be kept in mind in preparing the circulation plan.

(1) The basic problem is to get supplies to the troops from the places at which they are made available.

(2) The trains should be able to move freely from their bivouacs to supply points, distributing points, and troops.

(3) The ambulance units must be able to operate between their bivouacs, the ambulance stations, and the clearing station.

(4) Traffic directions should provide for the movement of loaded traffic over the best roads and by the shortest routes.

(5) Establishments such as clearing stations, dumps, distributing or collecting points, while having ready access to the main roads, should be located on side roads, so that the congestion due to waiting vehicles will not affect traffic on main roads. In the Meuse-Argonne, a field hospital station was established at the fork of a road at the southern entrance to Varennes. It was located at that point by a medical officer in charge without any thought of its effect upon circulation along the main supply road. Traffic was tied up there for hours. If it had been placed initially about three or four hundred yards from the fork on the side of the road it would not have caused the congestion that it did. Later it was moved down a side road and caused no further traffic problems.

(6) The direction of traffic leaving (or entering) a two-track road should provide, if practicable, for right hand turns in order to avoid crossing traffic at junctions.

f. Primarily, that which is desired in a circulation plan is an in-road and an out-road from the division area, a turn-around at each bivouac or establishment connected with both the in-road and the out-road.

6. MILITARY POLICE IN TRAFFIC CONTROL.—There should be a military police traffic control post at each important road junction. To the extent that is feasible these posts should be connected by telephone, or by voice radio, with a central control agency operating under the supervision of G-4 of the headquarters which controls the area involved.

Traffic control posts are supplemented by traffic patrols consisting of military police, mounted in cars or motorcycles, who patrol the roads, escort large convoys and investigate accidents. A detachment of motor maintenance men in a wrecker should be provided for trouble shooting when traffic is heavy.

Military police at control points direct traffic in a manner similar to that used at busy city intersections. They enforce traffic regulations, act as route markers, and disseminate traffic information.

In the performance of their duties the military police are representatives of the headquarters which controls their area, and are not subject to orders from any lesser authority. Drivers of motor vehicles must have this fact impressed upon them.

7. TRAINING OF DRIVERS.—Thorough training of drivers is absolutely essential to proper traffic control. Drivers must not only obey traffic signs, regulations, and military police but must also be instructed that when on main roads they must keep their vehicles moving. When their vehicles become stalled they must be taken in tow immediately or pushed clear of the road if towing is impossible. When they halt, they must park in parking areas or on the shoulders of the road so that the road is kept clear.

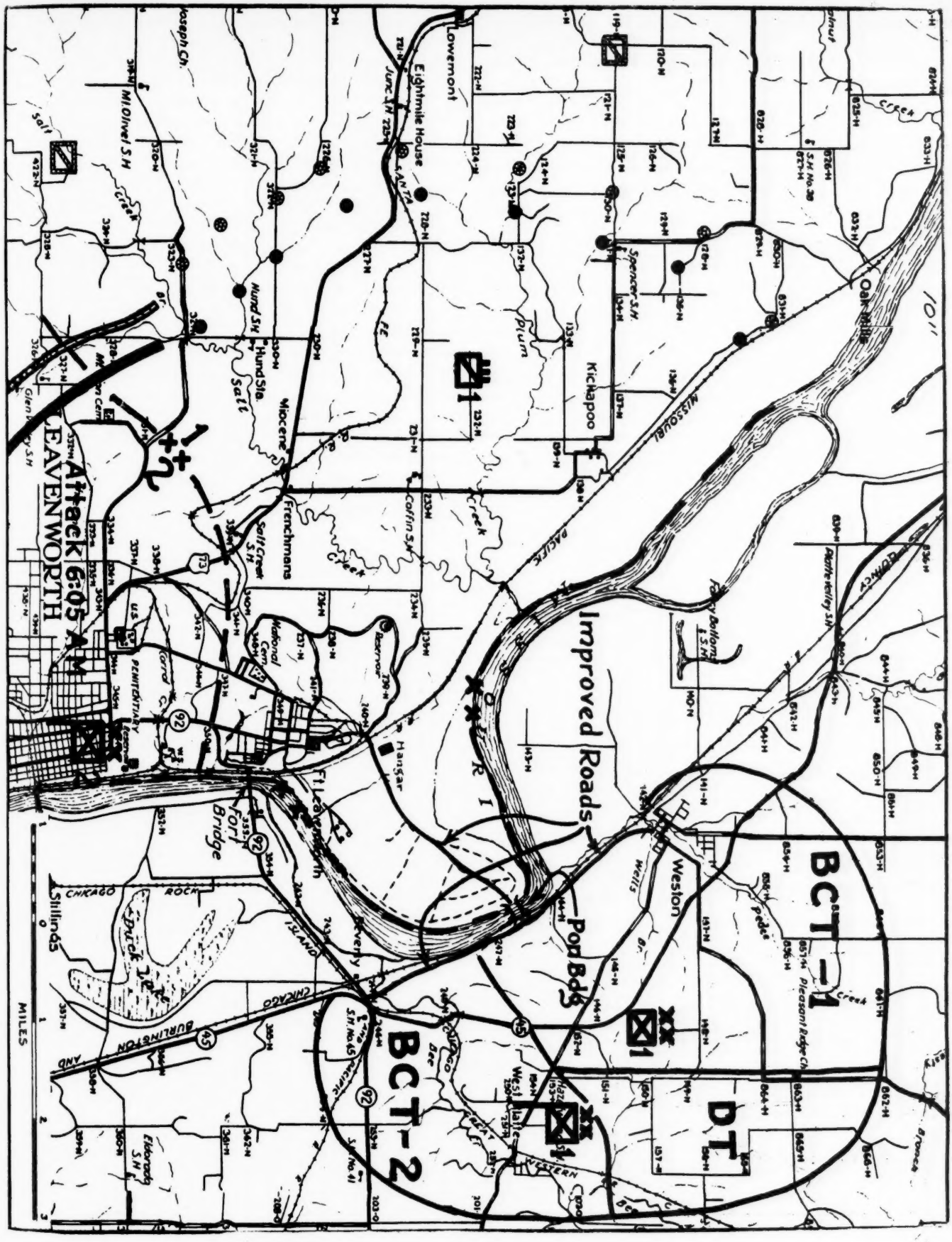
8. DEFENSE AGAINST AIR AND MECHANIZED ATTACK.—In any plan for traffic circulation, consideration must be given to preventing the interruption of traffic by enemy air and mechanized attack. Points at which traffic must be controlled are probable points for air attack. Busy road intersections should be provided with antiaircraft protection. Bomb proof shelters or at least narrow slit trenches should be available for personnel on duty at traffic control posts.

During the Battle of France, German mechanized vehicles created havoc by attacking rear areas and installations. Road signs pointing to ammunition dumps, railheads, gas and oil distributing points, and bivouac of trains may be of great assistance to enemy mechanized vehicles attacking rear areas. In the event of an immediate mechanized threat, it may be advisable to remove signs and substitute men as markers. On the other hand, signs may be left in position so that when enemy mechanized vehicles do attack, their movements will be canalized down definite avenues of approach and antimechanized weapons can be placed in position to meet them.

9. TRAFFIC CONTROL AT BRIDGES.—So far we have discussed traffic control and traffic circulation in general terms. Let us take a specific situation. (See Situation Map.) The 1st Division in concealed bivouacs east of Fort Leavenworth was directed to cross the Missouri River under cover of darkness preparatory to launching a coordinated attack at daylight with the remainder of the corps. Two bridges at Fort Leavenworth are available for the crossing. One of these bridges is a ponton bridge; the other is the highway bridge (Fort Bridge) connecting Fort Leavenworth, Kansas and Beverly Station, Missouri. The rate of travel over these bridges has been prescribed as 5 mph on the ponton bridge and 15 mph for the Fort Bridge. How will traffic be controlled at the bridges and how will traffic be diverted in case the traffic becomes tied up or the bridges go out? Paragraph 459 of the revised Field Service Regulations 100-5, states as follows:

"The engineer officer in charge of a military bridge is responsible for its structural adequacy and the regulation of traffic on the bridge and its approaches."

In this situation, engineer officers would be located at each bridge. Let us take the fort bridge. An engineer officer who had received special training in traffic control would be located at this bridge, probably on the east bank, with an N.C.O. on the west bank and a telephone connecting them. Military police stationed in Fort Leavenworth would operate under an officers' traffic control station. Signs would be posted by organizations and personnel would guide units into position. At Beverly would be an officers' traffic control station. The Provost Marshal may be located there or at Hazelwood School. Between the Provost Marshal, the officers' traffic control station at Beverly and the engineer at the fort bridge would be telephone lines, radio communication, and motorcycle patrols. Farther back in the division bivouac area would be other MPs at critical points. The other bridge would be organized in the same way. A march table would be issued giving initial points and time of starting. The columns begin moving at nightfall.


Attack 6:05 A.M.
LEAVENWORTH
Improved Roads
Pop Bds
BCT-1
BCT-2
DT
XX
1
Weston
Eighthmile House
Lowemont
Kickapoo
Frenchmans
Moccene
Fort Bridge
Stillings
Spruce
Oak Mills
Pleasant Ridge Ch
Pleasant Hill Ch
Hazel Dell Cem
Hazel Dell
Weston Cem
Hall Cem
Hall
Bronco
Kiss
Creek
Missouri
Pacific
Chicago
Rock Island
Burlington
Santa Fe
Penitentiary
Hangar
Reservoir
Ferry Bottoms
Spencer S.H.
Mound S.H.
Salt Creek S.H.
Coffin S.H.
Elderado S.H.
Pleasant Hill S.H.
Hall S.H.
Weston S.H.
Mt. Olivet S.H.
Glenwood S.H.
Joseph Ch.
Mt. Olivet Cem.
Walnut Creek
Plum Creek
Beaver Creek
Salt Creek
Walnut Creek
Pebble Creek
Missouri Pacific
Chicago Rock Island
Chicago Burlington
Santa Fe
Western Conn
Weston Cem
Hall Cem
Hall
Bronco
Kiss
Creek
Missouri
Pacific
Chicago
Rock Island
Burlington
Santa Fe
Penitentiary
Hangar
Reservoir
Ferry Bottoms
Spencer S.H.
Mound S.H.
Salt Creek S.H.
Coffin S.H.
Elderado S.H.
Pleasant Hill S.H.
Hall S.H.
Weston S.H.
Mt. Olivet S.H.
Glenwood S.H.
Joseph Ch.
Mt. Olivet Cem.
Walnut Creek
Plum Creek
Beaver Creek
Salt Creek
Walnut Creek
Pebble Creek
Missouri Pacific
Chicago Rock Island
Chicago Burlington
Santa Fe
Western Conn
MILES
0
1
2
3
45
92
73
1011

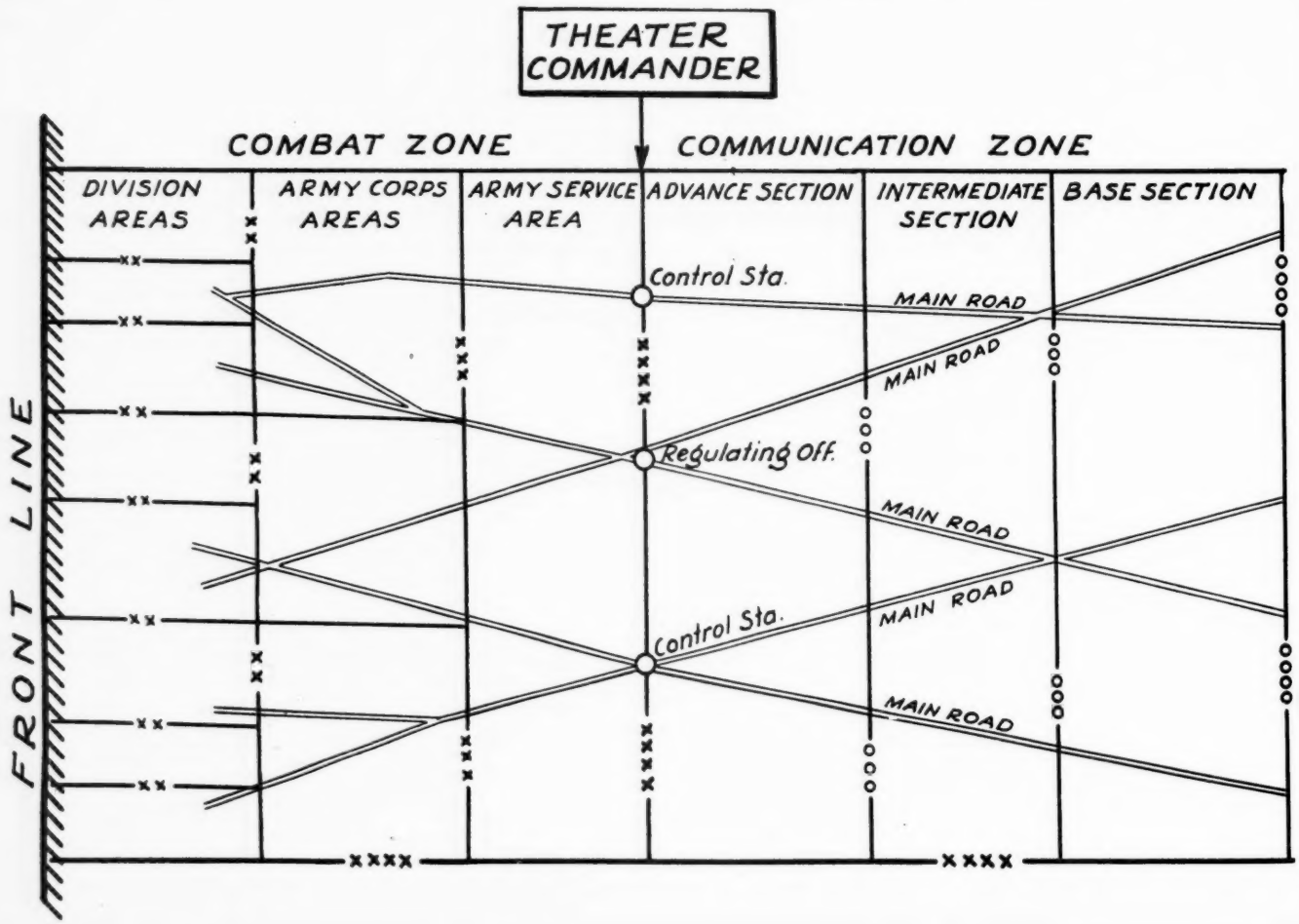
Suppose an enemy bomb destroys the immediate approaches to the Fort Bridge. The engineer would telephone, radio, telegraph, or send a motorcycle messenger to the Provost Marshal at Beverly directing him to halt the column until further orders. The Provost Marshal would have a pool of motorcyclists who would go out along the column and to the bivouac areas directing the heads of columns to halt until directed to proceed. Vehicles would pull off to the side of the road and remain concealed as much as possible. The engineer would divert traffic near the bridge to side roads. The Provost Marshal would direct other traffic to use the ponton bridge.

The rate of travel over these two bridges, 5 mph and 15 mph, respectively has a distinct influence on the measures that must be taken. For the Fort Bridge this rate (15 miles per hour) is just equal to the Standing Operating Procedure prescribed rate for night driving without lights. This rate might have to be reduced depending on the situation. For the ponton bridge, the engineer officer in charge would have practically to guide the column across by hand. He would have to notify each organization by telephone or messenger just when it should leave its bivouac area, countermand such orders and notify G-3 and G-4 in case the bridge goes out, giving G-3 and G-4 the best estimate possible as to the duration of the interruption. To minimize danger from air bombing, the time length of this column would have to be increased by three fold, with no closing up and other details prescribed.

In addition to this set-up, it is possible that enemy civilian refugees would be in the area. Plans in advance should be laid for this contingency. These refugees should be kept at least a mile away from both ends of the bridges because of their effect on traffic and for fear of possible sabotage to the bridges. Civilians should be blocked off the main highways and approaches to the bridges by refugee collecting points. Points on the west bank in the 1st Division area would be at the road entrance to the reservation at Leavenworth and along the Missouri Pacific R. R. where it enters the reservation at Leavenworth. Others might be at Salt Creek School and at Coffin School.

10. TRAFFIC CONTROL IN THE THEATER OF OPERATIONS. —Paragraph 463, FM 100-10, Tentative Field Service Regulations, Volume II, Administration, states as follows: "Coordination of traffic between the communication zone and the combat zone is effected by the regulating officer as a representative of the theater commander. Coordination of traffic between the army service area and the corps rear area is effected by the army; between the corps rear area and the division area by the corps."

The system of regulating traffic given above is the ordinary method used in mobile warfare in the theater where railroads are operating well forward and where hard-surfaced roads are not too limited in number. However, there may be situations where the road net is so limited that the absolute maximum capacity must be obtained from the existing roads. In such situations, all motor transport not essential for the



day to day supply of divisions, corps and armies will be pooled under control of the theater commander, who will also exercise control over all traffic on the main road net. The system of highway transport will be operated in much the same manner as a railroad system. The motor transport service will operate the transport in convoys, the engineers will mark and maintain the roads, the military police will act as switchmen diverting convoys from one road to another or placing them on sidings as may be ordered by GHQ. The nerve center of this organization will be the transportation section of G-3 or G-4, GHQ, where there will be found a chief dispatcher who directs all movements. The dispatcher will have direct telephone communication to each important military police control post so that the progress of all convoys may be kept constantly up-to-date on a control board maintained in the dispatcher's office. Such a system will be used to supplement the transportation needs of the armies to meet peak demands and also for the movement of strategic reserves across the theater.

Such a system, if covering a large territory in which two or more armies are operating will have to be subdivided for control, just as a railroad system is divided into divisions with a dispatcher for each division. Each army will then probably control traffic within its own area, subject to general direction and coordination by GHQ.

11. SALIENT FEATURES.—In conclusion, let us state some of the salient features of traffic. Proper attention to them will help greatly in achieving our objective which is to utilize available transportation with the greatest possible efficiency on the existing road net.

First. Proper training of military police in their duties and adequate training of individual drivers of motor vehicles is most important.

Second. Proper maintenance of roads, routine marking, and advance reconnaissance and special marking of routes for important convoys will prevent a great deal of delay.

Third. Supply and evacuation installations should be located on side roads so that waiting vehicles will not cause congestion on the main roads.

Fourth. Traffic control posts should be established by the military police at important intersections and provided with telephone connection with the general staff. At critical bottlenecks it may be desirable to station a personal representative of the commanding general who, being familiar with the entire situation, can at once straighten out any unexpected situation.

Fifth. In a congested theater, convoys should operate on a time basis at speeds prescribed in accordance with the existing road and weather conditions. Telephone reports from the military police at critical points will enable the general staff to check the progress of a convoy and make suitable arrangements for any departure from the prescribed schedule.

"Speed is, unfortunately, a most expensive commodity; alike in battleships, motor cars, race horses and women, a comparatively small increase in speed may double the price of the article."—Colonel A. P. Wavell.

War on Wheels, by Capt. C. R. Kutz. 1940 (see p. 219)

"The soldiers can be spared by shortening the battles."

—Frederick the Great

Library Bulletin

BOOKS ADDED TO THE LIBRARY SINCE DECEMBER 1940

Adams, James Truslow. — **Dictionary of American History.** Index. 1940 [973-A]

Angell, Norman. — **America's dilemma: Alone or Allied?** 1940 [973.917]

Anonymous. — **Letters from the Corsican.** A series of communications from Napoleon Bonaparte to Adolf Hitler. 1940 [M 9405-B3F]

Armstrong, Hamilton Fish. — **Chronology of failure.** The last days of the French Republic. 1940 [M 9405-J.44]

Auernheimer, Raoul. — **Prince Metternich: Statesman and lover.** (Translation from the German) 1940 [943.6-B92 (ME)]

Baumer, Captain William H. — **How to be an army officer.** 1940 [M 403-D.73]

Baumer, Captain William H. & Giffin, Captain Sidney F.—**"21 to 35."** What the draft and army training means to you. 1940 [M 206-C.73-E6-D]

Beals, Carleton. — **Pan America.** A program for the Western Hemisphere. 1940 [980]

Beard, Charles A. & Smith, George H. E.—**The Old Deal and the New.** 1940 [973.917]

Beckles, Gordon. — **Dunkirk — and after, May 10th-June 17th, 1940.** 1940 [M 9405-J.44]

Bell, Gertrude.—**The Arab War.** Confidential information for General Headquarters from Gertrude Bell. Being despatches reprinted from the secret "Arab Bulletin." 1940 [M 9403-J.56-M]

Benes, Vojta & Ginsburg, R. A.—**Ten million prisoners (Protectorate Bohemia and Moravia).** 1940 [M 9437]

Benet, Stephen Vincent. — **Zero hour.** A summons to the free. 1940 [M 9405-B3-J]

Boothe, Clare. — **Europe in the Spring.** 1940 [M 9405-B4.73]

Brandt, Mary Elizabeth. — **Spotover.** 1940 [M 403-G1.73]

Bunau-Varilla, Phillippe. — **From Panama to Verdun.** My fight for France. 1940 [M 944-B92 (BU)]

Burckhardt, Carl J. — **Richelieu: His rise to power.** (Translation from the French) 1940 [944-B92 (RI)]

Chatterton, E. Keble.—**The epic of Dunkirk.** 1940 [M 9405-J.44]

Chernukhin, A. E. — **English-Russian technical dictionary.** 1938 [491.7]

Comptroller General. — **Decisions of the Comptroller General of the United States, July 1, 1939 to June 30, 1940.** Vol. 19 [353.2]

Douglas, Henry Kyd. — **I rode with Stonewall.** Being chiefly the war experiences of the youngest member of Jackson's staff from the John Brown Raid to the hanging of Mrs. Surratt. 1940 [M 9737-E4-C.75-B92 (DO)]

DuBois, W. E. Burghardt. — **Dusk of dawn.** An essay toward an autobiography of a race concept. 1940 [973-B92 (DU)]

English-Russian dictionary of military terms. 1938 [491.7]

Erskine, John.—**Give me liberty.** The story of an innocent bystander. 1940 [M 9733-B3F]

Federal Digest. 1940 Annual covering volumes 60 Supreme Court Reporter; 106-113 Federal Second Series; 28-33 Federal Supplement; 1 Federal Rules Decisions. 1940 [345.5]

Federal Register. Vol. 5, Nos. 1 to 127, January–June 1940. (6 volumes) 1940 [328.731]

Federal Reporter, Second Series. Vol. 112 F. 2d: Vol. 113 F. 2d. 1940 [345.41]

Federal Supplement. Vol. 33. 1940 [345.41]

Fodor, M.W.—**The revolution is on.** 1940 [M 9405-C3-C.73]

de Gaulle, General.—**The army of the future.** 1940 [M 501-A.44]

German invasion of Poland. Polish Black Book containing documents, authenticated reports and photographs. 1940 [M 9405-J.438]

Graves, Robert. — **Sergeant Lamb's America.** 1940 [M 9733-B3F]

Gray, James.—**The Illinois.** (Rivers of America Series). Edited by Stephen Vincent Benet and Carl Carmer. 1940 [977.3]

Grey, C. G. — **A history of the Air Ministry.** 1940 [M 409-C.42]

Hagedorn, Hermann. — **The bugle that woke America.** The saga of Theodore Roosevelt's last battle for his country. 1940 [973-B92 (RO)]

Hamlin, Percy Gatling. — **"Old Bald Head" (General R. S. Ewell).** The portrait of a soldier. 1940 [M 9737-E4-C.75-B92 (EW)]

Hedin, Sven.—**Chiang Kai-shek.** (Translation from the Swedish) 1940 [M 951-B92 (CH)]

Hemingway, Ernest. — **For whom the bell tolls.** 1940 [M 946-A]

Hertzler, Arthur E. — **The doctor and his patients.** The American domestic scene as viewed by the family doctor. 1940 [973-B92 (HE)]

Hessel, F. A., Hessel, M. S. & Martin, W. — **Chemistry in warfare.** Its strategic importance. 1940 [M 423-J1-A.73]

Heyer, Georgette. — **The Spanish bride.** 1940 [M 94606-B3F]

Langdon-Davies, John. — **Invasion in the snow.** A study of mechanized war. 1941 [M 9405-J.471]

Lasser, J. K. — **Your income tax.** 1941 [336.2]

Laughlin, Clara E. — **So you're going south!** (To the South Atlantic States.) And if I were going with you, these are some of the places I'd suggest. 1940 [917.50]

Lawrence, T. E. — **Oriental assembly.** 1940 [M 942-B92 (LA)]

Lin Yutang. — **With love and irony.** 1940 [181]

Low, Professor A. M.:
Mine and countermine. 1940 [M 8506-B3]
The way it works. 1940 [608]

Lundin, Leonard. — **Cockpit of the Revolution.** The war for independence in New Jersey. 1940 [M 9733-J:76-C5]

Macartney, Clarence E. — **Little Mac.** The life of General George B. McClellan. 1940 [M 9737-E4-C.73-B92 (McC)]

MacFadden, Clifford H. — **An atlas of world review.** 1940 [M 910-A]

Marder, Arthur J. — **The anatomy of British sea power.** A history of British naval policy in the pre-dreadnought era, 1880-1905. 1940 [M 8501-H.42]

Marshall, S. L. A. — **Blitzkrieg.** Its history, strategy, economics and the challenge to America. 1940 [M 9405-H1-D.73]

Mason, Gregory. — **South of yesterday.** 1940 [972.9]

McCarthy, Major T. F. — **Court-martial practical guide.** 1935 [M 207-C.73-E]

McInnis, Edgar. — **The War: First year.** 1940 [M 9405-E3-D.42]

Metz, Dick. — **The secret to par golf.** 1940 [796]

Military Academy, U. S. — **Official register of the officers and cadets, U. S. M. A., June 30, 1939.** 1939 [M 209-C.73-D3C-5D]

Miller, Max. — **Harbor of the sun.** The story of the Port of San Diego. 1940 [979.498]

Muir, Peter. — **War without music.** 1940 [M 9405-B4.73]

Munoz, Joaquin & Ward, Anna Bell.—**Guatemala, ancient and modern.** 1940 [972.81]

Muzzy, David Saville. — **History of the American people.** 1935 [973.0]

Nicholls, Lieut. Colonel T. B. — **Organization, strategy and tactics of the Army Medical Services in war.** 1940 [M 421-C.42-C]

Nickerson, Hoffman. — **The armed horde, 1793-1939.** A study of the rise, survival and decline of the mass army. 1940 [M 501-A.73]

Nordhoff, Charles & Hall, James Norman. — **The Bounty trilogy.** Comprising the three volumes: Mutiny on the Bounty; Men Against the Sea; Pitcairn's Island. 1940 [813]

Officers' Guide. A ready reference on customs and correct procedures followed within the Army which pertain to commissioned officers. 1940 [M 403-D.73]

Portway Donald. — **Military science to-day.** 1940 [M 503-A1.42]

Priestley, J. B. — **Britain speaks.** 1940 [M 9405-E3-D.42]

Puerto Rico. A guide to the Island of Boriquen. Compiled and written by the Puerto Rico Reconstruction Administration in co-operation with the Writers' Program of the Works Projects Administration. (American Guide Series) 1940 [972.95]

Raleigh, John M. — **Behind the Nazi front.** 1940 [M 9405-E4-E.43]

Raymond, Dora Neill. — **Captain Lee Hall of Texas.** 1940 [973-B92 (HA)]

Rippy, J. Fred. — **The Caribbean danger zone.** 1940 [972.9]

Roberts, Kenneth. — **Oliver Wiswell.** 1940 [M 9733-B3F]

Romains, Jules. — **Seven mysteries of Europe.** (Translation from the French) 1940 [940.5]

Schniebs, Otto Eugen. — **American skiing.** 1940 [796]

Schuster, M. Lincoln. — **A treasury of the world's great letters from ancient days to our own time.** Containing the characteristic and crucial communications, and intimate exchanges and cycles of correspondence, of many of the outstanding figures of world history, and some notable contemporaries, selected, edited, and integrated with biographical backgrounds and historical settings and consequences by M. Lincoln Schuster. 1940 [808.8]

Science in war. 1940 [M 009-A]

Settle, Raymond W. — **The march of the mounted riflemen.** First United States military expedition to travel the full length of the Oregon Trail from Fort Leavenworth to Fort Vancouver, May to October, 1849, as recorded in the journals of Major Osborne Cross and George Gibbs and the official report of Colonel Loring. 1940 [978]

Sherwood, Robert E. — **There shall be no night.** 1940 [812]

Siegfried, André — **The Suez and Panama Canals.** (Translation from the French) 1940 [386.43]

Sprout, Harold & Margaret. — **Toward a new order of sea power.** American naval policy and the world scene, 1918-1922. 1940 [M 8501-H.73]

State Defense Force manual. 1940 [M 304-C.73-J3-F]

Steuben, John. — **Labor in wartime.** 1940 [331]

Strong, Anna Louise. — **My native land.** 1940 [973.917]

United States Code Annotated. Title 35: Patents. Pars. 1 to 46 and 47 to end. (2 volumes) 1940 [345.21]

Virtue, Captain C. M. — **Company administration and personnel records.** 1940 [M 206-C.73-L9]

War Department:

Infantry drill regulations. The new infantry drill regulations, United States Army, with rifle marksmanship caliber .30, Model 1903 (Springfield) and caliber .30, M1, military discipline and courtesies, interior guard duty, the infantry pack and equipment. 1940 [M 206-C.73-D5]

Special Orders, War Department, 1936, 1937. [M 206-C.73-D5]

Wavell, General Sir Archibald. — **Allenby: A study in greatness.** The biography of Field-Marshal Viscount Allenby of Megiddo and Felixstowe. 1940 [M 9403-J.56-P]

Wertenbaker, Thomas Jefferson. — **Torchbearer of the Revolution.** The story of Bacon's Rebellion and its leader. 1940 [975.5]

Wilkinson, Clennel. — **Bonnie Prince Charlie.** 1940 [942-B92 (CH)]

Wylie, Philip & Muir, William W. — **The Army way.** A thousand pointers for new soldiers collected from officers and men of the U. S. Army. 1940 [M 403-E1-D.73]

Zweig, Stefan. — **The tide of fortune.** Twelve historical miniatures. (Translation from the German) 1940 [834.91]

USA Signal Corps.

TROOPS ON THE MARCH, CANAL ZONE

BOOK REVIEWS

THE ARMED HORDE: 1793-1939

By Hoffman Nickerson

427 pages . . . New York: G. P. Putnam's Sons

Reviewed by Colonel Kinzie B. Edmunds, Cavalry

This book is of value to the military student in giving a history of the development of armies and the various methods used in raising and organizing them. The author summarizes, as well, the different theories of war which have been accepted from one period to another in the past and the methods of conducting war that have been employed.

An underlying thesis governs most of the views expressed in the book. This thesis is that warfare has run through a long historical cycle from the small, highly trained professional army of the Middle Ages and the seventeenth and eighteenth centuries to the raw mass levies of 1793-1918 now heading back toward the well knit professional fighting force again. The author vastly prefers the small army system, and seems also to prefer the medieval and eighteenth century social, economic, and governmental conditions which served as that system's background.

While there will be disagreement both with regard to Mr. Nickerson's small army leanings and with regard to his political, social, and economic antiquarianism, he brings out a number of points which will set a reader to thinking. One is that dynastic wars conducted by small professional armies were fought in almost complete dissociation from the activities of the mass of the people, excepting, of course those so unfortunate as to be in the theater of operations. Civilian life went on as usual. Gain or loss of limited objectives was accepted by the nation with equanimity. Citizens of belligerent countries could sometimes even visit one another without fear of violence or the concentration camp. Such a situation is difficult to imagine since the theories of Clausewitz have been generally accepted and applied.

Another point of particular interest is that in the small army era the whipping up of widespread popular passions was not a necessary pre-condition to the waging of a war. The result was that the bitterness and hatred of belligerent nations was comparatively restrained and a reasonable peace could usually be worked out by negotiation or adjustment. The "armed horde" completely "nationalized" war, made every citizen a participant, with the result that popular frenzy and grief precludes any peace save that which follows the utter exhaustion and prostration of one or both of the belligerents.

ALLENBY: A STUDY IN GREATNESS

By General Sir Archibald Wavell, K.C.B. C.M.G. M.C.

312 pages . . . London: George G. Harrap & Co., Ltd.

Reviewed by Major Charles H. Reed, Cavalry

This is most pleasant reading, and, moreover, a book that will well repay the careful study of every military man. The biography of a highly successful soldier by the present Commander of Allied Forces in the Middle East, General Sir Archibald Wavell. The author's own successful campaign in North Africa lends weight to his careful appreciation of Allenby's value as a general.

Allenby's cultural background, natural tastes and abilities, his early training in the field and subsequent military experience are carefully studied and portrayed. The gradual development of his character is most logically shown. His virtues and his most apparent fault, a sometimes violent temper, are shown in relation to his military achievements.

Considerable space is given to Allenby's participation as a younger field officer in the Boer War, and as a corps and army commander in France as well as to the better known campaigns in the Middle East. Throughout he is developed as a thorough soldier, painstaking, intelligent and courageous. His lack of appreciation of public opinion, his temper, and the losses suffered by his V Corps in France have combined in detracting from Allenby's stature as a successful soldier. General Wavell points out the unjustness of this and brings out his undoubted success as a commander and the love and veneration in which he was held by all close associates.

This book is recommended as a "must read" for the military student.

CHRONOLGY OF FAILURE

By Hamilton Fish Armstrong

202 pages . . . New York: The Macmillan Company

Reviewed by Lieutenant J. J. Gleason, Infantry

The unhappy concurrence in times such as the present of heightened public demand for news and diminished journalistic supply has resulted in our present glut of "books on the war." Most of them are pretty poor turnips, at which we shall look back in time to come with wonder that we thought them tasty fare.

Not that, even under such circumstances as these, the genuine article cannot be found. *Chronology of Failure*, for instance, is it. It should be the beginning, one can safely say, of a small but dependable bibliography of the Second World War. Its author, Hamilton Fish Armstrong, is no brash and callow observer, blown, complete with typewriter, out of the May, 1940 explosion. Editor of *Foreign Affairs* since 1928, soundly accredited as a leading historian of current developments, shrewd, cool, and painstaking in his method, he brings to his present task the benefits of a long familiarity with European events, a taste for orderly arrangement, the virtue of detached analysis.

He has set himself simply to record the facts of the French defeat so far as we have been able to know them, to confine himself scrupulously to ascertained fact, to set out those facts day by day from May 10th last to the close of the chapter on June 24th. So, day by day, he enters in his journal the military, naval, diplomatic, and political developments

from the grey zero hour when sledgehammer blows struck Holland, Belgium, and Luxembourg to the making of the "peace" a month and a half later. Wherever causal relations can be demonstrated between those events, the author points out the connection. Where gaps exist, either of fact or inference, he refuses to speculate. The result of his method proves once again that restraint and simplicity are the highest art. The unadorned facts, related with conscientious precision and brevity, told in the plain order of their happening, leave one breathless where romantic accounts might fail of effect.

At the close of the chronology Mr. Armstrong sums up in two chapters of thoughtful interpretation, headed: "Why Did France Fall?" and "What Are the Lessons for Us?" Five fundamental reasons are listed for the defeat, and, though they may sound commonplace and conservative, they are probably a lot better than the detective story solutions so many commentators have written up. France fell, the author says, because: (1) There was a lack of coordination between French foreign policy and French military policy; (2) There was insufficient matériel, particularly airplanes and tanks, to repel a German attempt to turn the Maginot Line through the Netherlands and Belgium; (3) France was divided politically and socially; (4) France had a Maginot Line in the mind; and (5) The German Army had superior resources, organization and striking power.

The lesson for us, Mr. Armstrong concludes, is to keep ourselves fully informed of the facts of the situation, to choose a definite foreign policy, and then to stick to that policy. Six years ago he had predicted that three courses were open to France: (1) to arm to the teeth, stand up to Germany, and be able to back her stand with superior force; (2) to reconcile herself to occupying an inferior place in a Nazi dominated Europe; or (3) to adopt the second procedure for a time and then switch over to the first. The first two courses did not necessarily mean war; but the third spelled war for a certainty. These were Mr. Armstrong's predictions in 1934 with respect to France, and we have seen how time has borne him out. Today he applies the same formula to the position of the United States. It is America's turn to choose.

OLIVER WISWELL

By Kenneth Roberts

836 pages . . . New York: Doubleday, Doran & Company, Inc.

Reviewed by Lieutenant J. J. Gleason, Infantry

Mr. Roberts has undertaken here the unusual and challenging task of presenting the American Revolutionary War through Tory eyes, filling in the familiar historical outline with a startlingly unfamiliar set of Loyalist convictions, opinions, sympathies, and prejudices. A reader is thereupon bestirred to review his own historical data—which is good for him—if only for the purpose of disagreeing with the story's views, and has the further benefit of enjoying an excellent novel in the process.

Two fine battle descriptions stand out: those of Bunker Hill and Long Island, pictured in broad and impressive sweep from the vantage point of a distant observer. There is a vivid participant's narrative of the siege of Ninety Six in South Carolina by General Greene's forces; and a running fire of interesting comment on the British soldiery and command, with their many merits and grave military shortcomings. As if balanced against one another are two brilliant accounts: the first, of Sir Henry Clinton's swift night march down the Jamaica Road to flank the Continental left on Long Island; the second, of Lord Howe's headquarters after the engagement, when a fighting captain, grimy and well-nigh in tears, begs—unsuccessfully—that Howe be quick to follow up the victory he has gained.

All in all, *Oliver Wiswell* is a most welcome book—provocative, substantial, entertaining, with more than the usual content of military experiences and operations.

THE WOUNDED DON'T CRY

By Quentin Reynolds

253 pages . . . New York: E. P. Dutton & Co., Inc.

Reviewed by Lieutenant J. J. Gleason, Infantry

Quentin Reynolds is the ranking foreign correspondent of *Collier's* magazine and many readers will already have seen in that periodical some of the intensely interesting reports of the war which go, in part, to make up the present volume. Reynolds reached Paris, by rare coincidence, on May 10th, 1940, the very day when things started popping. As he puts it: "Hitler marched into Belgium just as I marched into the Ritz Bar." Swept along by the invasion, he then found himself successively: in the French front lines, in an American ambulance section at Beauvais, in the rush of refugees from Paris to Bordeaux, in Ireland, and finally in England during the long months of total war from the skies. He visited airdromes of the R.A.F. fighter and bomber squadrons, sailed with a doughty little convoy around "Hell's Corner" in the Channel, saw an airplane factory at work, and watched the citizens of London with coolness, grit and incomparable morale endure the worst that Goering could deal out in the way of aerial high explosives.

Among other things, Reynolds mentions that one of the two organizers of the present Irish Army, Major General Hugo McNeill, studied his military science at Fort Leavenworth, and that he has built up the Irish forces, not on a divisional basis, but on the basis of 1000-man brigades, each brigade a fast, hard-hitting combat team that packs, proportionally, the punch of a division.

One is startled by the author's partial disillusionment in de Gaulle. The story is so fantastic as to be almost beyond credence. Reynolds was sitting in a Berkeley Square restaurant a week before the Dakar fiasco and observed a group of de Gaulle's officers holding some sort of celebration marked by gay alcoholic effervescence. Reynolds' waiter, upon inquiry, informed him that the happy diners were "going to attack some place called Dakar" next week. In the author's opinion the only way that anybody in London, Berlin, Vichy—or Dakar—could have failed to know of the expedition beforehand was to be deaf and woefully devoid of social contacts. He feels that de Gaulle should bear a superior's responsibility for this extraordinary and disastrous breach of discipline.

The author, who was a Brown University football star, writes with a 200-pound wallop. One instance will serve to

illustrate. A young English pilot has been explaining to him how a Spitfire works. Suddenly the phone rings with word that the Luftwaffe are coming in off Folkestone.

> "The motors roared into action. The pilots ran to the planes. I gave Douglas a boost onto the wing and then he climbed into the cockpit.
>
> "Good luck, kid," I shouted.
>
> "I might need it," he yelled back, grinning.
>
> "I guess he needed more luck than I had to give him. Fifteen minutes later the boy was dead."

AMERICA'S DILEMMA: ALONE OR ALLIED

By Norman Angell

226 pages . . . New York: Harper and Brothers

Reviewed by Lieutenant J. J. Gleason, Infantry

A well known English author and lecturer herein presents the case for American intervention in the current war. The second chapter of the book contains a clear and dispassionate outline of the isolationist arguments, which the author undertakes to answer: (1) That American intervention in 1917 was barren of permanent good results; (2) That the present conflict is merely another selfish European scramble of "Haves" against "Have-nots"; (3) That America's traditional policy has been abstention from foreign disputes; and (4) that America, even standing alone, is still invulnerable, unless she strips herself of necessary arms and equipment in an effort to supply Britain.

In the succeeding chapters Angell deals with these contentions and advances the reasons for believing that Britain's cause is now that of America as well. He submits the following arguments for consideration: (1) That America cannot isolate herself from—and even at present feels sharply—the pressure of Axis expansion; (2) That this is no petty territorial war but an ideological revolution which envisions world dominion under the Nazi order; (3) That the Axis offensive against the United States would not be a direct military attack but would begin with agitation of domestic disagreement, coupled with commercial and political infiltration into South America; (4) That for America to wait is simply for her to fight eventually without Britain's help, thus succumbing to Hitler's policy of "Divide and Rule"; and (5) That Britain and France, by refusing help to the earlier victims of Axis aggression, condemned themselves to the day of dreadful atonement through which they are now passing.

America's Dilemma is a book which can be read quickly and with profit. It will leave one with an improved understanding of both the isolationist and interventionist positions.

HAITI AND THE UNITED STATES, 1714-1938

By Ludwell Lee Montague

308 pages . . . Durham, North Carolina: Duke University Press

Reviewed by Lieut. Colonel E. M. Benitez, Coast Artillery Corps

This book based on manuscript materials in the State and Navy Department archives, the Library of Congress, and the British Public Records Office, as well as a host of printed sources, surveys for the first time the whole course of Haitian-American relations over more than two hundred years. For the eighteenth century the story is of a commerce so vital to American prosperity that British attempts to curtail it resulted in revolution. Later the account becomes inseparably connected with events moving toward the tragedy of civil war. Thereafter the emergence of the United States as a world power and the requirements of Caribbean naval strategy supply the theme.

Service readers will be primarily interested in this last phase, to which ten of the sixteen chapters are devoted, and in the first chapter, which presents a thorough and unique analysis of Haitian history and problems. Consideration of the relationship of Haiti to developing American strategic interest in the region from the period of the Mexican War places the intervention of 1915 in true perspective. Regarding the intervention itself, the author deals in neither whitewash nor anti-imperialist sentimentality. The last chapter considers developments since the withdrawal of the Marines.

The author is a Ph.D. of Duke University, an assistant professor of history at Virginia Military Institute and a captain in the cavalry reserve.

THE SECOND EMPIRE

By Octave Aubry
(Translated by Arthur Livingston)

638 pages . . . Philadelphia: J. B. Lippincott Company

Reviewed by Colonel F. M. Barrows, Field Artillery

The Second Empire is the life story of Napoleon III, by an author who has changed from an historical novelist to an historian, which, contrary to expectations, has improved him if such is possible. At any rate it has made history easier reading.

Napoleon's early life is barely touched, the author in one leap bounding into the revolution of 1848 and to Napoleon's coup d'etat of 1849. He gave a very intimate portrait of Napoleon III, a victim of circumstances principally of his own making, carried to power by an illustrious name and losing that power by poor diplomacy and the unexpected rise of Prussia (through Bismarck) which ended his Empire and his glory when Bismarck, in the Palace of Versailles, proclaimed the unification of Germany an accomplished fact.

Octave Aubry gives an excellent description of that disastrous and ill-conceived Crimean War; of the war in which France and Sardinia defeated Austria in the battles of Magenta and Solferino; and of that useless, bloody blot in history, the Mexican Empire of Napoleon III with Maximilian as the Puppet Emperor. Unfortunately there are no maps in the book and a military campaign without maps is to a military man like milk without cream.

The unfortunate adventure of Napoleon in Mexico is well described and quite accurately, though it would have helped had he used Mexican and American sources, both original and secondary. Since both Mexico and the United States were, to say the least, deeply interested, there is much good literature on the subject.

All in all the book is extremely interesting and tells the story well of a man of unequal ability endeavoring to walk in the footsteps of another whose star will never fade, on down through the annals of history yet in the making.

THE BATTLE SHIELD OF THE REPUBLIC

By Major Malcolm Wheeler-Nicholson

212 pages . . . New York: The Macmillan Company

Reviewed by Colonel Kinzie B. Edmunds, Cavalry

It is unfortunate that the author's sensational style and his tendency to state such matters of opinion in the form of facts may lead to prejudice against this book and disregard of the valuable and often-founded criticism it contains. It is a book military men would do well to read and digest. On the other hand, by reason of some of its wildly inaccurate statements, it is likely to lead to misjudgement on the part of civilians into whose hands it may come.

An experienced reader will have to dissociate the merits of the work from its numerous points of weakness. For instance, the author in an effort to support his criticisms does less than justice to the AEF.

He ignores, or is ignorant of, the real issue in the question of separation of the air corps—the Douhet theory.

His discussion of discipline is a caricature of the truth. "The guardhouse," he says, "is the omnipresent symbol of American Regular Army discipline." Who believes that?

He is right in his conclusion that the evaluation of officers by means of efficiency reports is a system that leaves much to be desired, but wrong in the reasons he assigns for his disapproval. What is needed rather, is a human scale—the comparison of officers with one another instead of measurement against an impersonal standard in terms of abstract qualities.

The author refuses to concede that the military system of this country is prescribed by Congress and that the Army must work within the limits thus legislatively defined.

Various observations are made in the volume which are worthy of consideration. They might be epitomized as follows: (1) Senior officers are often not thoroughly enough educated in military sense, nor sufficiently trained in their profession; (2) there is much deadwood in the officer corps, and no effective method of eliminating the unfit or of rewarding merit; (3) the army inclines toward slowness in making changes of method and in adopting new weapons; (4) higher military organization can easily become bureaucratic in nature, whereupon it manifests all the faults of bureaucracy.

FOR WHOM THE BELL TOLLS

By Ernest Hemingway

471 pages . . . New York: Charles Scribner's Sons

Reviewed by Lieutenant J. J. Gleason, Infantry

Vicente Rojo, the Loyalist general, has planned an offensive in the Guadarramas. The attack is to turn the Rebels' position high on a pass, overrun La Granja, and force the defenders to yield Segovia below. Golz, a methodical Russian, is to execute the operation with a division. Considerably behind the pass runs a gorge and a stream spanned by a single bridge. Only over that bridge can Nationalist reinforcements be moved up quickly enough to stop the Loyalist offensive. This bridge must be blown, precisely at the moment the attack starts so as not to permit of repair or forestall the surprise. To Robert Jordan, a young American guerrilla and dynamiter, is assigned the mission of working his way through the enemy lines, collecting as many irregulars as he needs for the job, and blowing the bridge the instant he hears the first thuds of the preparatory bombardment. So Robert Jordan sets out, carrying two sacks of explosives and the necessary detonating equipment.

Upon this setting Hemingway builds his story. There is realism in the treatment of its personalities, terrain and weapons. He writes dialogue the way most people today would like to write it. The story has a powerful compactness of time and place and action. One senses the atmosphere of guerrilla operations, the loneliness, difficulties, self-reliance of the man who fights far from his fellow soldiers and has death constantly at his elbow.

EUROPE IN THE SPRING

By Clare Boothe

324 pages . . . New York: Alfred A. Knopf, Inc.

Reviewed by Lieutenant J. J. Gleason, Infantry

Clare Boothe will be known to readers as the author of that witty and devastating stage satire, *The Women*, and as the wife of Henry R. Luce, publisher of *Time*, *Life*, and *Fortune*. Going about her task of writing a war commentary with fine common sense and practicality, she has given us a deservedly successful volume, variously ranked by critical opinion as the best or one of the best of its kind yet to come off the press.

Her approach to the problem has been surprisingly simple and effective. She journeyed to Europe in March, 1940, ready and willing to observe and to learn. During the next four months she circulated about through Italy, France, Holland, and Belgium, talking to everyone, high or low, who would pause to express an opinion, eliciting countless views of the war and America's relation to it, arguing with any of the natives or foreign functionaries who tended toward argument, noting their thoughts, enthusiasms, and reactions. She was one of the two women allowed by French military authorities to view the Maginot Line, the other being her eminent political foe, Dorothy Thompson. At the end of her trip Miss Boothe proceeded to write up the whole thing, so reports have it, in five weeks' time.

The apparent carelessness of her method—a designed absence of plan—must not be allowed to belie the fine accuracy of the result thereby achieved. She has shown how the vast run of people in the Allied and neutral countries looked upon the war just before and during the May disaster. She has indicated the existence of rash public optimism, bad military morale, Anglo-French mistrust, laxness in high

places and gullibility. Yet through it all one can see definite signs of underlying French patriotism, and of British determination to see things through.

Miss Boothe talked to Count Ciano who, despite her best efforts, canalized the conversation deftly into a channel of bright, non-military, non-political chat. Others were more communicative. A little taxi driver in Paris told her sadly that what the Allies needed was "a Man." Maurice Chevalier informed her, through the medium of a popular song at the Casino de Paris, that the French forces, notwithstanding poor physique, political division, and a desire to get back home, were "excellent soldats." Many assured her that the German Army was officered by Munich street brawlers and that their callow conscripts would advance only if energetically machine-gunned from behind.

A conspicuous handful had better perception, and some of them called the turn with amazing precision. Our military attaches in Paris warned Miss Boothe at an early date that what seemed a promising Norwegian situation was sour for the Allies, that Hitler would strike either in May or in June through Flanders, that the French and English under the existing circumstances had not so much as a Chinaman's chance, and that she would do well to get out of the locality before she was blown out by a bomb. In London the old editor of the *Observer*, Mr. J. L. Garvin, thundered that his people must stop loafing, must dump Chamberlain and come to life, for they faced no interminable Sitzkreig, but the historic "furor Teutonicus."

When the Maginot Line was proudly opened to the author's eyes, she observed: "Why, it's so good the Germans won't try to go through it. They'll go *around* it!" Such unorthodoxy shocked those about, imbued as they were with a profound though wishful conviction that a foe could no more "go around" such a masterpiece than a true fellow artist could walk wide of a Rembrandt.

Nevertheless, when the going became the worst, small sidelights began to illumine the darkness of the scene. Two English boys, just back from Flanders and the Dunkirk evacuation, discuss their experiences with almost bashful restraint—unaware that Miss Boothe, at a table nearby, is listening—and conclude: "But the whole thing proves one thing —we've got them licked." A little Frenchman who had lived through the barrages of Verdun in '16 reflects: "There are no hopeless situations; there are only men who have grown hopeless about them." Says Miss Boothe: "May their sons be many!"

"I say, then, that when you have gained a victory, you ought by all means to pursue it, and to imitate Julius Caeser rather than Hannibal in that respect; the latter of whom lost the empire of the world by trifling away his time at Capua, after he had routed the Romans at the battle of Cannae. Caeser, on the other hand, never rested after the victory, but always pursued and harrassed the enemy after they were broken and flying, with greater vigor and fury than he attacked them at first.

—*The Art of War*, Page 162, Book 4, Machiavelli.

Directory of Periodicals

Included in this directory are only those periodicals from which articles have been selected. See also "List of Periodicals Indexed and Key to Abbreviations."

MILITARY AND NAVAL PERIODICALS

Joint Forces

	PAGE
Fighting Forces (Great Britain)	78
Journal of the United Service Institution of India (Great Britain—India)	79

General Military

Army Quarterly (Great Britain)	77
Journal of the American Military Institute	78
Krasnaya Zvyezda (Russia)	79
Militärwissenschaftliche Mitteilungen (Austria)	84
Revista Militar (Argentina)	85
Revue Militaire Suisse (Switzerland)	86
Wissen und Wehr (Germany)	87

Arms and Services

AIR

Royal Air Force Quarterly (Great Britain)	86

ARTILLERY

Coast Artillery Journal	77
Field Artillery Journal	78
Journal of the Royal Artillery (Great Britain)	78

CAVALRY

Cavalry Journal	77

ENGINEERS

Military Engineer	85
Royal Engineers Journal (Great Britain)	86

INFANTRY

Infantry Journal	78

MEDICAL

	PAGE
Journal of the Royal Army Medical Corps (Great Britain)	78
Military Surgeon	85

ORDNANCE

Army Ordnance	77

QUARTERMASTER

Quartermaster Review	85

TANKS

The Tank (Great Britain)	87

Navy and Marines

Marine Corps Gazette	84
Naval Institute Proceedings	85

GENERAL

American Historical Review	87
American Journal of International Law	87
Annals of the American Academy of Political and Social Science	87
Current History	87
Foreign Affairs	87
Fortune	88
Geographical Review	88
Proceedings of the Academy of Political Science	88
Round Table (Great Britain)	88

Catalog of Selected Periodical Articles

This section catalogs the articles selected from Library periodicals for the current quarter. Periodicals in this catalog are arranged alphabetically.

ARMY ORDNANCE

January-February 1941

PRODUCTION FOR DEFENSE. A REPORT ON REARMAMENT PROGRESS. William S. Knudsen

WEAPONS AND THE ARMY. SPEED OF PRODUCTION IS THE NEED OF THE HOUR. Robert P. Patterson, Assistant Secretary of War

REARMAMENT PROGRESS. STATISTICS OF THE CURRENT PROGRAM

OUR ARMAMENT GOES FORWARD. THE GAINS IN PLANNING, ENGINEERING, AND PRODUCTION. Major General C.M. Wesson

ANTITANK AND ANTIAIRCRAFT GUNS. TRENDS IN THE DEVELOPMENT AND USE OF INTERMEDIATE ARTILLERY. Brigadier General R.H. Somers

THE BASES OF NATIONAL DEFENSE. A GENERAL SURVEY OF OUR MILITARY ASSETS AND LIABILITIES. Hoffman Nickerson

TANKS. THE IDEAL COMBINATION OF FIRE POWER, MOBILITY AND PROTECTION. Lieut.Colonel J.K. Christmas

ARTILLERY AMMUNITION. THE NEED FOR QUALITY AS WELL AS QUANTITY PRODUCTION. Colonel H.H. Zornig

ARMY QUARTERLY (Great Britain)

January 1941

THE DEVELOPMENT OF GERMAN STRATEGY. Brigadier General Sir James Edmonds

THE WAR AT SEA — SEPTEMBER-NOVEMBER, 1940

THE SECOND GERMAN WAR. OCTOBER-DECEMBER 1940. AXIS MANOEUVRES IN THE BALKANS AND THE GREEK-ITALIAN CAMPAIGN. Lieut.Colonel H. de Watteville

DEFENCE TACTICS. Captain A.E.H. Campbell

THE GERMAN DEFEAT IN 1918. HOW LUDENDORFF TRIED TO EXONERATE THE ARMY

JUNIOR LEADERSHIP

THE ELIZABETHAN MEDICAL SERVICE

A HIGH-NUMBERED GERMAN DIVISION FROM BIRTH TO DEATH

A SOLDIER OF OLD AUSTRIA. THE REMINISCENCES OF GENERAL FREIHERR VON BARDOLFF

BOY REGIMENTS AND BOY OFFICERS. Major T.J. Edwards

SCHLIEFFEN AS AN INSTRUCTOR

TWO CROSSINGS OF THE DANUBE IN 1916

CAVALRY JOURNAL

November-December 1940

THE ARMORED FORCE AND ITS DEVELOPMENT. Lieut.Colonel P.G. Black

OUR REMOUNT SITUATION

NEW ORDNANCE WITH THE CAVALRY DIVISION. Lieut.Colonel R.W. Daniels

MOTOR VEHICLE MAINTENANCE. Captain J.B. Wells

COAST ARTILLERY JOURNAL

November-December 1940

TRAINING. Major General J.A. Green

SECOND ARMY MANEUVERS. Colonel F.L. Walker

BATTLE PRACTICE. Captain M.G. Weber

THE COAST ARTILLERY IN PANAMA. Lieut.Colonel C.R. Finley

AIRCRAFT WARNING SERVICE TESTS. Major W.D. Dunham

TRANSPORTATION: THE FIFTH "G"? Captain W.S. Everett
RADIO INTERCEPT AND INTERFERENCE. Major Rex Chandler

January-February 1941

OUR REPLACEMENT CENTERS
EUROPEAN AIR BATTLE. Major General Rowan-Robinson, British Army, Retired
THE GRAECO-ITALIAN CAMPAIGN. Major W. Yale
BOOKSELLER IN ARMS. (Major General Henry Knox, Secretary of War under President Washington.) Major C.W. Elliott, U.S. Army, Retired
ACTION AT DAKAR. Colonel C.I. Crockett, U.S. Army, Retired
DON'T BLAME THE CONSTRUCTING QUARTERMASTER! Lieut.Colonel W.D. Styer, C. of E., and Major O.E. Davis, QMC
LATE GERMAN AIRCRAFT BOMBERS. (Pictures)
MOTOR TORPEDO BOATS IN COAST DEFENSE. H.T. Robertson, U.S. Navy
A UNIVERSAL BRACKETING FIRE ADJUSTMENT CHART. Captain O.H. Milmore

FIELD ARTILLERY JOURNAL

November-December 1940

NEW ORGANIZATION OF THE CORPS ARTILLERY BRIGADE. Colonel F.A. Doniat
A PLAN FOR COUNTERBATTERY IN AN ATTACK OF A POSITION
CORPS ARTILLERY AND COUNTERBATTERY — GERMAN. Captain C.N. Tupper
CORPS ARTILLERY AND COUNTERBATTERY — FRENCH. Major W.M. Sturtevant
THE RETREAT TO DUNKIRK
ARTILLERY IN OPEN WARFARE
GUNNER IN LUZON — CONCLUSION. Brigadier General E.D. Scott. U.S. Army, Retired

January 1941

THE DEFENSE OF HONDEGHEM. A BATTERY OF FIELD ARTILLERY IN CLOSE-RANGE FIGHTING
ANTITANK BATTERY TRAINING. Major R. Van Wyck
DIRECT FIRE — 1941 EDITION. Lieutenant A. Cushman
MEN IN ARMOR
THE LIZZARD. (Towed targets) Lieut.Colonel J.H. Woodbery
MAPS FROM AN ARTILLERYMAN'S VIEWPOINT. Major T. North
MOBILE ARMORED OP. MacKenzie Hill
LEADER OR ADVISER? Major General W.J. Snow, U.S. Army, Retired
LESSONS FROM THE WAR. Colonel C.H. Lanza
THE 108TH FIELD ARTILLERY TRAINER. Major L.B. Ely
FIELD ARTILLERY ABROAD. (The development of field artillery in recent years.)

February 1941

THE 105-MM HOWITZER. Brigadier General J.P. Lucas
BREAKTHROUGH AT SEDAN. Colonel C.H. Lanza
TIME SHELL AND THE BLITZKRIEG. Major J.R. Randolph
FIELD ARTILLERY REPLACEMENT CENTERS. Lieut.Colonel E.P. Parker, Jr.
CANADIAN MILITARY TRAINING CENTERS. E.T. Burch
A MOBILIZATION TRAINING PROGRAM. Captain R.A. Ellsworth
ARTILLERY HINTS. Colonel Kruse, German Army
GUERRILLA WARFARE. Captain G. Haig
AIR OBSERVATION OF ARTILLERY FIRE. Lieut.Colonel J.B. Wogan

FIGHTING FORCES (Great Britain)

December 1940

GERMANY'S AIR LOSSES IN LONDON ATTACKS. (Editorial)
THE EASTERN MEDITERRANEAN. Major-General H. Rowan-Robinson
THE U-BOAT CAMPAIGN. HAS THE CLIMAX BEEN REACHED? R.H. Gibson
THE ARMY'S ROLE. [Contributed.] (Condemnation of the book "Sea Power," by T-124.)
THE NAVY AT WAR
OUR AIR ATTACKS ON GERMANY. SCIENTIFIC PLAN OF CAMPAIGN
NOTES ON THE WAR IN THE AIR. WHAT OF THE ARMY AIR ARM?
ROUMANIA. Sacheverell Sitwell
BIG BERTHA
"FLAGS AT HALF-MAST." II. — 1919-1940. Captain G.W.L. Meredith

INFANTRY JOURNAL

November-December 1940

THE MAN SELECTED FOR SERVICE. Brigadier General L.B. Hershey with Captain T.M. Watlington
BREAKTHROUGH, M-1940. Major Wendell G. Johnson
TRANSPORTATION: THE FIFTH "G"? Captain W.S. Everett
THE LITTLE PICTURE. Captain P.W. Thompson

January 1941

MOTORIZED DIVISIONS. Major General G.A. Lynch
FROM THE CHIEF'S OFFICE: AIR INFANTRY. Lieut.Colonel W.C. Lee
ECLIPSE OF A DIVISION. Colonel C.I. Crockett, U.S. Army, Retired
ON MOUNTAIN WARFARE. Lieut.Colonel J.M. Scammell
TACTICAL VALUE OF COMMERCIAL PHONES. By a Liaison Officer

February 1941

NEW WAR — NEW SOLDIER? Fletcher Pratt
THE LITTLE PICTURE. SMALL UNIT COMBAT IN WORLD WAR II. Captain P.W. Thompson
SOMETHING TO SHOOT AT. Lieutenant J.E. Minter, Jr.
IMPROMPTU TANK SUPPORT. Major J.R. Kennedy, MC, RA, British Army, Retired
ANTITANK MEASURES. (Pictures)
THE FUTURE OF THE CITIZEN OFFICER. Lieut.Colonel J. Doakes
EFFECTIVE USE OF TRAINING PICTURES. Captain A.K. Ransom
INFANTRY RIFLE REGIMENT (MOTORIZED)
INTERNATIONAL MILITARY SURVEY: TANKS AND THE FALL OF FRANCE. Anonymous
ANTIAIRCRAFT ADAPTERS FOR INFANTRY WEAPONS. Lieut.Colonel G.A. Schlieker

JOURNAL OF THE AMERICAN MILITARY INSTITUTE

Summer 1940

WAR AND THE COLLEGES. Alfred Vagts
THE BATTLE OF MAI CHIO, 1936. General J.F.C. Fuller

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS (Great Britain)

October 1940

SOME OBSERVATIONS UPON THE WORK OF A MOBILE SURGICAL TEAM. Major J.M.P. Clark
THE ORGANIZATION AND RUNNING OF AN AMBULANCE TRAIN. Major C.C.H. Chavasse
THE TREATMENT OF WOUND SHOCK

November 1940

MILITARY OPHTHALMOLOGY. Colonel F. Juler
GAS GANGRENE

December 1940

TREATMENT OF WAR WOUNDS IN FRANCE, MAY-JUNE, 1940. Major J.S. Jeffrey
THE WAR AND OURSELVES. Lieutenant-Colonel F.A.E. Crew
LIGHTING IN FACTORIES AND VENTILATION DURING THE BLACK-OUT. (Editorial)

JOURNAL OF THE ROYAL ARTILLERY (Great Britain)

October 1940

"DUNCAN" MEDAL ESSAY, 1939-40. (Officer Training.) Captain W. Odling, R.A.

The Royal Artillery officers are required in adequate proportions for command, the staff, the schools and appointments both technical and semi-technical. In this essay is discussed the present system of providing suitably trained officers with the alternatives open to the individual officer.

Further are discussed:

(1) Method of Providing Suitable Officers for Extra-Regimental Appointments:

(a) The Staff; (b) The Arsenal; (c) Instructors; (d) The Territorial Army; (e) Colonial and Miscellaneous Appointments.

(2) The Working of the System
(3) The Regimental Captain
(4) The Effect on the Regiment
(5) The Junior Staff College Course
(6) The Senior Staff College

A Remedy. — If the suggestions in this essay were followed the turning points in an average officer's career would be:

(1) At the end of his 2d lieutenant's service when he would select or reject the scientific branch.

(2) At the end of his lieutenant's service when he would either be recommended or not, for staff appointments; depending on his success at the compulsory junior staff college course.

(3) At the end of his captain's service, when he would consider specializing in gunnery.

(4) At the end of his major's service when, if he had been selected for promotion, he would either join the staff or the commanders' branch.

The writer, in conclusion, goes on to say that he feels this producing of alternatives at reasonable stages in an officer's career would materially assist in putting the right man in the right branch and at the same time would strengthen the present deplorable weakness of the "middle-piece" of the regiment. This weakness, in his opinion, is seriously affecting the efficiency of the army and action is urgently required to rectify it. He also feels that his suggestions would benefit the individual and give him a better chance of developing that part of his faculties which is most likely to lead him to success.

THE LAND FORCES OF GREAT BRITAIN. Lieut. Colonel J.W. Hope, D.S.O., R.A. (Retired)

CAMBRAI 1917. THE DEFENCE OF LES RUES VERTES, 30TH NOVEMBER. Major A.F. Becke, late R.F.A.

This article has to do with the defense of Les Rues Vertes in the III Corps front of the British Third Army in front of Cambrai. It deals especially with the gallantry, energy and leadership of the Staff Captain of the 86th Infantry Brigade, Captain R. Gee, Royal Fusiliers, on 30 November 1917, when, according to his brigade commander he saved the 86th Brigade. It is a most minute and vivid description of Captain Gee's unusual leadership and heroic conduct during that day and for which he was awarded the Victoria Cross.

THE AMERICAN WAR OF INDEPENDENCE. Part II. Lieut. General Sir George MacMunn

This is Part II and completes an intensely interesting short history of the American War of Independence. It is interesting in that it is written from the viewpoint of a Britisher, a soldier and a scholar. He is naturally a bit biased in favor of England so does not fail to make dents, if not holes, in the armor of our heroes. So different from our text books, it is a joy to read.

THE MORALE OF THE REICHSWEHR. Lieutenant G.A. Minto, R.A.

This is an extremely interesting article because it was written apparently just after the defeat of Poland, considered by the Allies as an easy walk-over of an inferior power and Germany was not given much credit for her extraordinary accomplishment. It is believed that, had the author waited until after the western débacle, an entirely different deduction would have been reached and the corps d'élite of 100,000 (limited to that number by the Versailles Treaty) would have had a different place in the picture. Something gave this mighty German army a morale that was able in lightning speed to control most of Europe. Just what that was it would be interesting for the author to have given.

"SOME NOTES ON THE RECENT CAMPAIGN IN BELGIUM," 10TH MAY TO 3RD JUNE 1940. By "B.C."

(A twenty-page vivid picture by the battery commander of the action of his battery during that time.)

JOURNAL OF THE UNITED SERVICE INSTITUTION OF INDIA
(Great Britain — India)

October 1940

THE VALUE OF MECHANISATION IN ASSISTING TO SOLVE THE DEFENCE PROBLEMS OF INDIA. Major D.F.W. Warren, 8th Punjab Regiment

MORALE OF THE INDIAN ARMY. Lieutenant J.L.A. Bell

THE WAR IN EAST AFRICA. A ROLE FOR THE INDIAN ARMY. Captain S.G.D. Jones, 2d Punjab Regiment

KRASNAYA ZVYEZDA (Russia)
BY LIEUTENANT JOSEPH DASHER, O.R.C.

15 June 1940

SYSTEM OF SUPPLYING FUEL FOR THE GERMAN ARMY.
[Snabzhenye Germanskoy armii goryuchim.] Major N. Volkov

The German command attached considerable importance to the preparation of speedy transportation of fuel from the deep rear to the front lines, over railroads and highways. Freight trains in many cases attained a speed of 65 miles per hour. Mechanical equipment was installed at railroad stations to speed up the loading and unloading of war supplies. The German war plan, which provided for the building of 4,295 miles of super-highways, 25 yards wide, had been largely completed.

Transportation of fuel over dirt roads was carefully considered. Kulemeyer carts were used for this purpose. A specially adapted 20-ton railroad tank car is reloaded to such a cart, which is then drawn by a 100 HP motor at a speed of 9 to 12 miles per hour, for delivery directly to front line units. Six to eight such loads insure the supply for an entire division.

The day of long fuel trains is past, and this apparently is realized by Allied attack and bombing aircraft. Transportation of fuel in 3-5 ton containers and tank trucks is now practiced.

A net of well-concealed small filling stations has been established on roads. More than 60,000 such stations have been established. Field fuel supply centers are carefully camouflaged in forests (at Sedan, for instance).

Allied aviation, unable to wrest control of the air from the Germans, was incapable of destroying their system of fuel supply.

16 June 1940

THE APPROACH TO THE ENEMY DEFENSIVE ZONE.
[Podkhod k oboronitelnoy polose protinnika.] Colonel B. Bukin

Theoretical treatise concerning the tactics of a division or larger forces, in approaching the enemy defensive zone.

17 June 1940

PECULIAR FEATURES OF ANTIAIRCRAFT ARTILLERY ACTION IN MOUNTAINS.
[Osobennosti deystviy zenitnoy artillerii v gorakh.] Major V. Bakhirev

Basic tasks of antiaircraft artillery in mountain action are: (1) to secure by a heavy curtain of fire the mountain passes and road junctions, and (2) to protect various units from enemy air attacks.

In executing these tasks antiaircraft artillery will encounter many serious obstacles. These will be: difficulty in maneuvering, heavy loss of time for deployment, varying climatic conditions at different altitudes and strong influences of season and weather; complications arising out of fire direction, the selection of firing positions and OP's, and the organization of liaison.

These are the difficulties which must be anticipated in order to secure proper organization and functioning of reconnaissance, security, liaison, fire direction and the concentration of antiaircraft artillery in mountainous terrain.

21 June 1940

THE PARIS OPERATION.
[Parizhskaya operatsya.] Colonel V. Popov

Through its very nature the battle for Paris was vastly different from the operations in Belgium and Northern France. These battles were in the form of encounter combat, and the Anglo-French forces were always too late. As a result the Allied forces quickly gave way before German pressure, and when threatened with flanking action, speedily retreated, as in the Ardennes and on the Diel river. When the Germans broke through to the sea complete disorganization of the front took place, and the French had neither the time nor the ability to create a new line of resistance. Besides this, such technical innovations were employed by the Germans as aerial landing parties, dive bombers, mass tank attacks, and all these were unknown to Allied troops and were thus especially effective.

But in the battle for Paris we meet an entirely different situation. A strong line of resistance previously selected, reinforced positions, careful organization of antitank defense — all of this served to give the French armies and their leaders certain self-confidence. The Germans were forced to make use of a strong artillery preparation, both heavy and light artillery taking part. Attacking on a wide front, German infantry appeared at first to be feeling out for weak spots in the defense, following this by gnawing through a number of enemy positions with the aid of aviation and tanks, which led to the complete collapse of individual sectors of the front.

As formerly, the Germans made wide use of their aviation, but in these particular battles the employment of dive bombers was somewhat lessened. However, no aerial landing parties were used by the German command as circumstances precluded this and there was lack of assurance of a speedy breakthrough. The French had sufficient strength and means for handling even the largest landing party before it could be aided by a moto-mechanized force.

The actual absence of the element of surprise was a characteristic of the Paris offensive. This was compensated for by the intensity of preparation. Under these specific conditions it was less important for the Germans to attain the element of complete surprise than to catch the enemy in a state of unpreparedness. The fifteen days which the French command had for the organization of defense, enabled it to bring up to Paris the basic forces of the French army, but at the same time this facilitated for the German command the solution of its problem, i.e., to decide the whole action with one blow.

Again the German command widely employed the method of diverting blows. Only when the enemy had spent his available reserves did the Germans commence the main offensive. The latter developed in the form of two separate thrusts, in different directions and at 24-hour intervals. All of this rendered it extremely difficult for the French command to make use of its few operative reserves, because the successive German thrusts for a long time revealed nothing of the principal intentions of the German command. But these separate blows had but one idea behind them — to reach Paris simultaneously by double envelopment of its flanks. Thus, in the Paris offensive we see the realization of a definite and well conceived operative plan. We also observe the progressive growth of the attacker's efforts, while the strength of the defender steadily diminishes.

It was not the new German tactics and powerful weapons that decided the outcome of the battle. The result, above all, was determined by the superiority of the Germans in tanks and planes.

In the Battle of Paris absolutely everything was staked by Germany upon one card. Losses, of course, were of no consideration, since Germany considered that even the bloodiest battle would be cheaper than several years of war. Almost two-thirds of its entire strength and all its tanks were thrown into this battle by the German command.

The War of 1914-1918 differed in that it continued while the comparative strength of the belligerents was relatively equal. Not in any of the engagements of the first World War did one of the belligerents command such overwhelming superiority of strength as was had by Germany during the recent battles in France.

22 June 1940

SURPRISE.
[Vnezapnost!] Major A. Staykovskiy

The war in the West presents many examples of the element of surprise.

On the night of 10 April 1940 German armed forces suddenly crossed the Danish border, occupying Denmark and all the strategic points in Norway. This bold move deprived Britain of a possible jumping-off place for an attack against the German flank.

Such success was secured only by thorough knowledge of enemy forces and his territory, and by readiness to act speedily and decisively.

The German action in Holland, Belgium and France was equally sudden. On 10 May the Germans crossed the borders of Belgium, Holland and Luxembourg, and on 15 May the Dutch Army capitulated. What were the factors which secured the suddenness of German action?

Above all — intelligence work. The German command learned of Anglo-French preparations on the Franco-Belgian frontier to assure the safe passage of Allied forces through Belgian and Dutch territory. The Germans learned that mobilization was being hastened by the Dutch. The Allies

were unable to conceal their intention and the Germans beat them to the draw.

Here, too, the factors of surprise were: Concealed preparations for actions and diversion of Allied attention to the north, toward Norway, new methods in the employment of massed air forces, moto-mechanized units and large parachute landing parties.

In the latter case surprise consisted not in the fact that aerial landing parties were used, but in that the Germans used them in a different manner — on a massed scale and with active intentions.

23 June 1940

MODERN DEFENSE.
[Sovremennaya oborona.] Major General P. Yarmoshkevich

Modern defensive action will occur simultaneously in both the tactical and strategical zones. However, in the tactical zone, as a rule, the action will be against infantry, while in the strategical zone it will be against mobile and parachute forces.

If the defensive side, in spite of the breakthrough effected by mobile forces into rear areas, will continue to fight in the tactical zone and will succeed in separating the infantry from tank units, it will thus create conditions favorable for the liquidation of the mobile group isolated from its infantry by means of appropriate mobile forces and combat aviation.

24 June 1940

FLAME-THROWING TANKS.
[Ognemetniye tanki.] Colonel I. Tishkin
(See Digest, page 42)

6 July 1940

BOMBING OF NARROW TARGETS.
[Bombometanye po uzkim tselyam.] Army Engineer 1st Class S. Rumyantsev

Many aerial targets are of comparatively great depth and rather small width. To this class of targets belong marching columns, railroad bridges, dams, ferries, auto roads. Such targets require methods of aerial bombing other than those employed against targets occupying a large area.

While the bombing of normal targets can be effective from an altitude of 9,000 feet and higher, similar action against a target such as a railroad bridge would be virtually impossible, due to prohibitive quantity of means necessary for this purpose. In order to destroy a bridge from an altitude of 12,000 to 15,000 feet it is necessary to use some 100 bombing planes, and with all this the expectancy of effective hits is but one or two. This is caused by the narrow width of the target, and in order to increase the chances of direct hits, it becomes necessary to increase the number of aircraft in action against such targets.

All narrow targets of great depth are characterized by a low degree of vulnerability. However, these targets are not uniform in their nature. Such targets as a railroad bridge or a dam may be rendered useless with one or two hits by bombs of corresponding caliber. Other targets, such as railroads or a marching column, become vulnerable only if hit by many bombs. Only mass hits can render such targets ineffective.

After considering these and other arguments on the subject the author arrives at the conclusion that only dive bombers can be fully effective against narrow targets, and he discusses certain technical features of dive bombing.

There is quoted the following portion of the Soviet field manual for bombing aviation, relative to vertical dive bombing: ". . . This method of bombing is characterized by considerably accuracy, it increases the penetrating action of the bomb (especially when the bomb gains additional velocity) and it is safer, as compared with horizontal bombing, in the zone of antiaircraft fire."

14 July 1940

ANTIAIRCRAFT DEFENSE OF TROOPS AT NIGHT.
[Protivovozdushnaya oborona voysk nochyu.] Colonel A. Malinovskiy

The system of nocturnal observation, information and liaison is established with the consideration of a number of peculiar features of the action of aviation, and the methods of countermeasures.

Antiaircraft observation posts discover the presence of hostile aircraft by sound, as the noise of motors is audible at a distance of 4 to 5 miles. Special instruments, with which such OP's are equipped, increase this distance 8 to 10 miles. The OP's are established in places where no extraneous noises will be heard.

Experience shows that well trained observers can distinguish hostile from friendly aircraft by the sound of the motor. With favorable visibility, signal lights of aircraft may be seen from a distance of 2 to 2½ miles. The exhaust fire of motors are visible at an altitude of 300 to 500 yards.

In order to facilitate the recognition of aircraft it is desirable to designate points of entrance and egress for friendly aircraft and to establish a simple system of radio, rocket or flash signals for friendly aircraft returning from the direction of the enemy. Friendly aircraft should avoid flying over terrain protected by our own antiaircraft artillery.

At night posts are so located as to be able to watch aerial approaches along the most important linear orienting points (river, highway, railroad). The regrouping and establishment of additional posts is effected in daylight.

Sound signals are used for informing troops of the presence of enemy aircraft. In such cases rockets are of little avail as they betray the location of troops.

For action against low-flying aircraft machine guns, antiaircraft automatic weapons and automatic cannon on fixed mounts are employed. Rifle fire may be effectively employed only in salvos and by the most skilled marksmen, properly commanded. No less than 20% of the ammunition used should be of the tracer type.

Infantry opens its fire against the silhouette of the plane, which may betray its presence by the exhaust fires. It is inadvisable for infantry to conduct barrage fire against an invisible target as the effectiveness of such fire is negligible, while the flashes will disclose the infantry's position to the enemy.

It is feasible to employ barrage fire of automatic cannon on fixed mounts and antiaircraft automatic weapons, in protecting fords and small defiles. But here the barrage should be prepared for use in advance.

At night, antiaircraft artillery conducts fire against aircraft located with the aid of sound-ranging equipment and searchlights. The firing positions of antiaircraft artillery and those of searchlights must be protected by antiaircraft automatic weapons.

Barrage fire of antiaircraft artillery is of little value and consumes much ammunition. Therefore, when lacking sound-ranging equipment and searchlights it is inadvisable to employ barrage fire, unless — and this happens but rarely — the altitude of enemy aircraft is known, or when aircraft proceed along definite linear orienting points. When employing barrage fire it is recommended that batteries be placed away from the troops which are being given this protection. Thus, the enemy's attention may be attracted to the wrong region.

Especially important are the measures of antiaircraft protection of troops at night. Above all, the total concealment of lights is imperative. Camp fires are prohibited. Measures should be taken to darken any reflection from field kitchens. At the signal "air alarm," all lights are extinguished. The lighting of headquarters and of populated points near the troops is permitted provided it cannot be observed by the enemy.

In order to deceive the enemy, the plan for antiaircraft defense should provide for the preparation of a false "lighted region" located at a safe distance from the troops. A special detail, protected by means of cover from aircraft fire, should do the "lighting up" in this region, but this must be effected strictly in accordance with a well conceived plan.

All matériel is concealed under natural camouflage (foliage), or under special camouflage netting. Whenever the situation permits, the grouping of troops and of rear elements should be changed for the night.

Whenever enemy aircraft appears and when illuminating bombs are dropped, protective discipline is most important. Usually troop movements are prohibited at such times.

As to antiaircraft defense at night for marching troops, the following measures are observed:

A system of outside posts for aerial observation and liaison is organized in advance. The posts are established during daylight. Only stationary posts are established at night, to insure more certain radio communication between them and the columns, and to facilitate the location of enemy aircraft by sound. The distance between the posts of the outer system and the troops should allow for at least one minute's warning. Posts are distributed for circular observation. The outer net of posts is organized by the unit headquarters (division, corps).

The posts of the inner system proceed within the columns, usually in the middle of each battalion column. Soldiers designated for aerial observation in flank companies, proceed at a distance from the road in order better to hear the noise of airplane motors.

Upon receiving from the posts of the outer system the report of the approach of enemy aircraft, the column posts signal to troops by siren, bugle, or other sound methods. Antiaircraft artillery and searchlights take firing positions beforehand.

There will not be a sufficient quantity of antiaircraft artillery or searchlights to protect the marching columns along the entire route. Therefore, only the most important crossings or defiles are given antiaircraft artillery protection. If the march is completed at dawn, antiaircraft artillery protects that part of the route which must be covered in daylight. It will also protect the columns as they separate and proceed into their respective sectors. Separate roads must be assigned to antiaircraft artillery, to enable it to outdistance the columns, and to reach its firing positions before the arrival of the columns.

Antiaircraft machine guns of the units, and automatic cannon on fixed mounts, detailed for antiaircraft defense, proceed within the columns. At the signal "air alarm," the vehicles transporting antiaircraft weapons leave the road and prepare to open fire.

All the routes within the unit's sector should be utilized. When favored by the terrain, night movement of troops off the roads is the most effective method of concealing the march and thus of avoiding air attacks.

A column marching on a light colored road bed is easily discernible at night by reconnaissance aircraft. Therefore, such roads should be utilized only for the movement of those columns which are capable of dispersing speedily at the "air alarm" signal.

A separate road is designated for mechanized units, motor-drawn artillery and motor transport. Whenever possible these elements should be assigned roads that are well protected by trees on both sides, for example, forest roads. Such roads provide effective concealment even when hostile aircraft uses rockets and illuminating bombs. All motor movements are effected without the use of headlights.

The plan of antiaircraft defense should provide for the protection of crossings which may be demolished or chemically contaminated. At times, captive balloons may be effectively employed to protect crossings and defiles.

Superior training of troops in firing upon aerial targets under conditions of limited visibility, and the ability to employ all the means of defense prepared in advance, are prerequisites of effective antiaircraft defense.

16 July 1940

CAVALRY ACTION IN THE DEVELOPMENT OF THE BREAKTHROUGH.
[Deystvya konnitsy pri razvitiii proryva.] Major General N. Shabanov

Modern equipment adds greater stability and resistance to cavalry, and insures for it increased effectiveness as a breakthrough element, permitting it to act simultaneously against the enemy front and rear. Large cavalry units are equipped with motorized equipment, tanks and aviation. This powerful equipment supplements the combat effectiveness of cavalry.

The Soviet cavalry is capable of independent conduct in all types of combat. In releasing the strategic cavalry from difficult engagements on narrow sectors, on which the firing is heavy, the command of the fronts and of armies should utilize this arm to the greatest possible advantage. The command has the opportunity of employing strategic cavalry on the flanks of armies and fronts, of sending it into the breakthrough accomplished by the infantry, for the purpose of developing the breakthrough and for attacking the enemy rear and reserves. The command can also use the cavalry for attacking the principal enemy groupings from the rear, in cooperation with other arms.

Strategic cavalry should be employed in mass only — cavalry corps and combined horse-mechanized groups. In rare instances, when an unexpected situation demands it, and under special conditions (for instance, in the desert or in mountains) an individual cavalry division may be employed, but it must be absolutely reinforced by modern equipment.

17 July 1940

THE ORGANIZATION OF REAR AREAS IN THE MOUNTAINS.
[Organizatsya tyla v gorakh.] Lieut. Colonel V. Bogdanov

An interesting discussion of problems presented by the characteristic features of mountain terrain. The author considers instances when troops may be situated at distances of 185 to 310 miles from the nearest railroad. He quotes Italian experiences in Ethiopia where supplies for 15 to 25 days were maintained at the supply bases.

Consideration is also given in this article to the problems of evacuating the wounded.

18 July 1940

ON THE COMBAT EQUIPMENT OF TANK CREW MEMBERS.
[O boyevom snaryazhenii tankista.] Colonel S. Oleynikov

Under combat conditions the tank crew must work inside and outside of the tank. The preparation of the tank for combat, and reconnaissance of the terrain, combat routes, etc., is usually accomplished on foot. This places special emphasis on the combat equipment of the members of the tank crews. It is clear that if the enemy notices the reconnoitering group he may be able not only to disrupt the reconnaissance, but also to anticipate the tank attack.

The author goes on to point out that the equipment of Soviet tank forces makes them instantly recognizable as such to the enemy.

Interesting instances from Russo-Japanese engagements at Khalkhin-Gol (TRANSLATOR'S NOTE: Khalka River in Mongolia, August 1939) are quoted.

While Soviet infantry encountered some difficulties because of the reflection of their steel helmets in sunlight, the Japanese aviation, according to Colonel Oleynikov, was frequently deceived by any shining metal objects, such as tin cans, abandoned mess kits, etc., and, in fear of Russian infantry concentration, would violently bomb any spot where there was shining metal. On the other hand, the first sign of the inability of Japanese infantry to withstand artillery fire was the appearance on hillsides of a great number of shining points. This proves the great importance of proper uniform and equipment.

The tank crew members should be dressed in khaki, and preferably in clothing of fire-resisting fabric. The steel helmet should be covered by a khaki colored fabric. The overalls, for combat use within the tank, should have no buttons, but should be fastened by zippers. In summer it is better to wear canvas boots with a rubber sole, which should have deep ridges to prevent them from slipping during movement of the tank.

The pistol holster for tank commanders and commanders of motorized units should be improved to prevent the collection of dirt and dust in the sidearm. Difficulties were encountered in this respect in the sand at Khalkhin-Gol, where frequent cleaning of the pistols was necessary.

At Khalkhin-Gol the entire Japanese force was equipped with folding mosquito nets, which were worn over the headgear. The net is held rigid by springs, which prevent it from touching the face, and do not interfere with visibility. For defense against mosquitos the Japanese also used pressed tobacco pulp in the form of a spiral string which was burned in trenches and dugouts.

COMBAT AVIATION DURING PENETRATION OF A DEFENSIVE ZONE.
[Boyevaya Avyatsya pri proryve oboronitelnoy polosy.] Colonel E. Chalik

This is a detailed discussion of the conduct of combat aviation during the several stages of a breakthrough action.

The period of preparation calls for action by combat aviation, calculated to bring about the physical exhaustion and moral collapse of the defenders, the disruption of defensive fortifications, and the reduced effectiveness of defensive fire.

During the period of direct artillery preparation for the penetration the basic problem of combat aviation is to reinforce the effectiveness of artillery fire by attacking targets which are beyond the range of ground observation, or such targets as the artillery may be unable to reach. Simultaneous, coordinated action by artillery and attack aviation against the most important targets is also possible.

After penetration into the enemy rear, from the moment the enemy defensive zone has been pierced by infantry and tanks, aviation either independently or in cooperation with artillery subjects to attack the enemy's regimental and divisional reserves, giving him no time to organize a counter-attack.

19 July 1940

ACTION AGAINST ARMORED AND TANK UNITS.
[Bor'ba s operativnymi bronetankovymi soyedinenyami.] Major General of Tank Forces V. Obukhov

The length of combat formations in the rear areas is the weakest and most vulnerable feature in the attack by large tank and armored units, and offers excellent opportunity for effective counter blows.

By means of energetic, powerful counterattacks, the battle formation of the enemy may be thrown into disorder, the tanks may be cut off from the motorized infantry, within the limits of tactical defense. The success of initial operations will prepare the ground for final defeat of enemy tank and armored units.

Whenever the tanks succeed in penetrating the tactical defense, all efforts will be directed to defeat them within the nearest assembly zones.

The nature of antitank and anti-armored action will be especially mobile and energetic. Such action will demand precise calculation and capable employment of large tank units and artillery. Commanders will always strive to capture terrain favorable for such action. Of considerable aid in these mobile activities will be aviation armed with small caliber cannon, capable of piercing the top armor of enemy vehicles. Also necessary for this action will be strong antitank artillery and motorized engineer units, armed with a large quantity of antitank mines.

20 July 1940

THE FORCING OF A RIVER BY A RIFLE REGIMENT.
[Forsirovanye reki strelkovym polkom.] Major Genreal I. Galitskiy

The average number of boats required for a battalion during an attack in the principal direction is as follows: when river is 100-250 yards wide, 8 boats; when it is 250-400 yards wide, 12 boats. Knowing that the entire battalion may be simultaneously accommodated on 32 to 36 boats, it is thus easy to estimate the number of trips. A 50-100% reserve is added to the number of boats.

In the case of a secondary attack direction the battalion will require 4 boats for a river 100 yards wide, 6 boats for one 150-250 yards, 8 boats for one 250-400 yards.

Calculations are also made for crossings by means of ferry. Consideration is given to river crossings by the artillery battalion and by amphibian tanks.

25 July 1940

ANTIAIRCRAFT ARTILLERY FIRING AGAINST AERIAL LANDING PARTIES.
[Strel'ba zenitnoy artillerii po vozdushnym desantam.] Lieut. Colonel A. Grodzinskiy

(See Digest, page 55)

9 August 1940

THE DEFENSE OF AIRDROMES.
[Oborona aerodromov.] Colonel N. Voronov

Among the current methods of struggle for command of the air the most decisive and effective method is aviation attack on enemy airdromes, and their capture by parachute landing parties, mechanized forces, guerrillas and subversive groups. This means that the defense of airdromes assumes extremely great significance.

A very active means of antiaircraft defense of airdromes is pursuit aviation. It prevents the aerial enemy from attacking airdromes. However, the success of its activities depends on the speed and accuracy of aerial observation, information and liaison service. Constant reconnaissance by pursuit craft in the air is not advisable. It would require great expenditure of machines, inasmuch as the pursuit plane's fuel supply is estimated for one to three hours' flight. The patrolling by pursuit craft in the vicinity of airdromes is recommended only for the covering of takeoffs and landings of bombardment and attack aircraft. It is believed that watch should be kept on the airdrome by individual units. The following conditions must be fulfilled: flying and ground personnel should be at their aircraft; the craft should be so placed as to enable the unit keeping watch to take off without having to "taxi" to the starting point; motors should be kept warm, especially in winter, in order to reduce the time necessary for the take-off; direct contact with the CP of the airdrome is necessary, while the CP should be in direct contact with the posts of aerial observation, information and liaison.

Before the take-off the commander of the unit on defense duty is advised of the number, type and altitude of enemy aircraft. After the take-off this data is verified and sent to him by radio and ground signals.

Antiaircraft artillery plays an important part in antiaircraft defense of airdromes. It will be employed in accordance with terrain conditions. Usually in the defense of airdromes the distance between firing positions will be 2 to 3 miles.

In the author's opinion it is most advisable to use small caliber antiaircraft artillery for the defense of airdromes, which should be given as auxiliary armament to the commander of the aviation unit, and large caliber antiaircraft machine guns, as well as small caliber machine guns for repulsing aircraft at altitudes up to 1,000 yards.

Riflemen, and especially snipers, can also be highly effective in the defense of airdromes, as shown during the recent warfare in Spain.

Passive defense will include the usual camouflage and protective measures. Not the least important among these is the proper placing of aircraft.

The author recommends that no more than 15 craft be concentrated at any time at any one airdrome, and that these be spaced 50 to 100 yards apart. The ammunition and fuel supplies should be concealed at a distance of 150 to 250 yards from the craft.

Special measures should be planned for defense of airdromes against attacks by mechanized forces and aerial landing parties.

10 August 1940

THE ORGANIZATION OF A NIGHT MARCH BY TANKS.
[Organizatsya nochnovo marsha tankov.] Lieutenant K. Zuyev

If the roads over which the tanks are moving are paved, then the march at night proceeds with comparative speed. However, if the tanks must move over narrow forest roads or dry field roads, there will be some difficulties. Should one of the tanks stop on a forest road, it will be difficult to go around this tank. On dry field roads the tanks will move literally in a cloud of dust with extremely low visibility. At times it will be necessary to use the tail lights, and to paint white stripes on the sides of the tanks.

The author points out other difficulties encountered by tanks at night, and recommends measures for their relief. He lays stress on the necessity of the strictest march discipline.

MECHANIZED FORCES OF THE BRITISH ARMY.
[Mekhanizirovanniye voyska angliyskoy armii.] Major N. Volkov

The author narrates the history of the mechanized forces in the British army and discusses their present organization, strength and types of materiel.

British field service regulations, published in 1935, provide two methods for the employment of tanks. One of these is the independent maneuvering action by tank brigades, consisting of mixed and light tank battalions; the other method is the direct cooperation of tanks with the infantry.

According to these regulations the tank brigade is the principal assault nucleus of the mobile division, in which the remaining motorized elements are intended for reconnaissance, security and for clearing of obstacles, as well as for action in a terrain inaccessible to tanks.

A part of the regiments of light tanks of a mechanized cavalry brigade is designated for the reserve, employed under favorable conditions. If, however, the attack is directed at the enemy flank or rear, then the light tank regiments will be employed in that part of the division's battle formation where no serious antitank defense is anticipated.

Army (infantry) tank battalions are designated for close cooperation with the infantry. Their task is to demolish barbed wire obstacles, and to silence machine guns or neutralize their action. Besides this they can be effectively used against enemy tanks.

During offensive action, combat units (divisions) will be employed in the direction of the main assault, if possible against weakly defended enemy positions. The British consider the best methods of using tanks to be the flank attack, the attack against enemy reserves, headquarters and rear areas, and when there is no open flank the entry of tank units into the penetration.

The combat formation of the tank brigade, when the situation is indefinite by reason of limited information regarding the enemy, or in action against mechanized units, is usually a triangular shape, with the point towards the enemy, one battalion in front, and two in the rear — on its flanks. When necessary the tank brigade can advance in three echelons, for instance when a narrow front is attacked and a deep penetration into the enemy position is necessary.

Frontal assault upon a prepared position is considered possible by the British only in the event that such an assault is strongly supported by artillery and machine guns.

In defensive action tanks are kept in reserve for counterattack, especially against enemy tanks and armored units.

14 August 1940

TANKS IN COMBAT FOR POPULATED AREAS.
[Boy tankov za naselyonniye punkty.] Colonel I. Ziberov
(See Digest, page 48)

15 August 1940

THE EQUIPMENT OF GERMAN PARACHUTISTS.
[Snaryazhenye germanskikh parashutistov.] From Swiss sources
(See Digest, page 47)

16 August 1940

BATTALION MINE THROWERS IN DEFENSE.
[Batalyonniye minomyoty v oboronye.] Colonel I. Latyshev

In defense the squad of mine throwers as a rule is under direct command of the battalion commander. It conducts a centralized fire from one general firing position. However, depending on circumstances, and particularly on the terrain and width of the defensive sector, the mine thrower squad may be distributed among the companies.

Usually the mine-thrower squad in defense opens fire from medium and even from limited distances. It functions in short bursts of fire, 3 to 5 shots to a mine thrower. The following are targets for mine throwers: infantry groups, moving along covered approaches, and enemy emplacements, machine guns, mine throwers, individual guns.

Especially intensive fire should be opened against the sector where the enemy is concentrating for attack. Coupled with machine-gun fire and supporting artillery, the battalion mine throwers are able not only to keep the enemy flat on the ground, but also to destroy him.

Should the enemy succeed in raising his infantry off the ground for attack, the mine thrower squad immediately opens curtain fire. Curtain fire is continued until there is danger of striking one's own infantry.

When the enemy breaks into the front line of resistance the mine-thrower squad speedily retreats to the reserve firing position, whence it immediately opens fire at groups of enemy infantry. This retreat is effected by each mine thrower individually (with permission of the battalion commander), and only in the event that capture threatens the squad. Until the moment when the first mine thrower, which changed over to the rear position, opens fire, the remaining mine-thrower personnel must not retreat. These men will continue firing to the very last, and at personal sacrifice, if the situation demands it.

If the squad is forced to retire to the reserve position, into the zone of the second echelon, its task will be to switch over for the support of the counterattack by the company of the second echelon in order to join forces to destroy the enemy who had penetrated into the defensive rear.

In the event of an enemy tank attack the mine-thrower personnel, together with the matériel, will seek cover in ground crevices. As soon as the tanks pass the firing positions, the mine throwers are quickly set up again and fire is immediately opened upon the enemy infantry which is following the tanks.

The tactics of a mine-thrower squad assigned to a company are the same.

17 August 1940

CAMOUFLAGING A CROSSING.
[Maskirovka perepravy.] Major B. Badanin

Of great importance in camouflaging a crossing are natural features, such as forests, brushwood, buildings, at the place of crossing. The nearer they are situated to the bank, the closer may the starting line be placed, and the easier it will be to conceal the loading of matériel, equipment and troops.

If natural features of camouflage are insufficient, it will be necessary to supplement them by artificial ones. For this purpose camouflage fences are employed. They are made of such material, and in such form, as to blend into the surroundings.

20 August 1940

TANK ACTION IN THE PENETRATION OF A FORTIFIED ZONE.
[Tanki pri proryvye ukreplyonnoy polosy.] Colonel P. Rotmistrov

No matter how thorough is the artillery preparation, a certain number of fortified emplacements will remain unscathed. These are the greatest danger to infantry in the penetration. Until such emplacements are definitely destroyed, the infantry will continue to suffer losses from their fire and its forward progress will be held up. Therefore, after the artillery preparation, special attention should be given to action against the surviving pill boxes.

The task of counteracting these concrete emplacements should be assigned to shock troops with tanks (blocking groups). If it is estimated that on a half mile of front — on the reverse slopes and in the defensive rear — there will remain effective after artillery fire one-third of the permanent fortifications, i.e., for instance 10 pill boxes, then for their blocking and destruction 10 shock troop details will be required. Such a detail consists usually of a small number of infantry and engineers, 1 to 2 guns and 2 to 3 tanks.

The tanks of these shock details will advance to 40 or 50 yards from the fortification, carrying the engineers with demolition equipment. The tanks will open fire against embrasures, forcing the enemy to cease fire or to pull the shutters down. The last task is performed also by the infantry together with the added 45-mm and 76-mm guns. Under cover of the fire of the entire detail, the engineers approach the fortification, blocking the embrasures from the outside, and placing the explosives.

For blocking the permanent emplacements (pill boxes), if it is estimated that 10 will survive to each one-half mile of the fronts, it will be necessary to have for the shock troops in that sector 20 to 30 heavy tanks, and for the entire front of a corps, 4 miles in width, 240 heavy tanks will be required.

For the rifle corps nine battalions of light tanks will be needed, and one additional tank battalion will remain in the corps commander's reserve.

Thus, for the penetration of a strongly fortified zone a rifle corps should be reinforced by 450 heavy or medium tanks, and by 450 to 500 light tanks.

The author further recommends that for the above purpose special heavy tanks should be employed, armed with 152-mm cannon. While such tanks will have to be very heavy, it will not be necessary to have a large number of them, since the 152-mm gun was highly effective against permanent fortifications, according to the author's observations.

21 August 1940

THE EQUIPMENT OF GERMAN PARACHUTISTS.
[Snaryazhenye germanskiky parashutistov.] From British sources

On the basis of the experience of recent months it can be stated that German parachutists are usually landed in groups. They are dropped from airplanes at an altitude of about 100 yards which insures precision in landing. One plane is able to carry as many as 30 parachutists who can be dropped at the rate of twelve men per ten seconds. After landing in groups the parachutists immediately separate into individual combat units of six to eight men, and proceed to carry out their missions.

Our present information is that only aerial landing parties are equipped with bicycles. Parachutists should be able to secure bicycles, motorcycles, automobiles or trucks from the civilian population.

During the jump the parachutist is not encumbered with a heavy load. His more weighty weapons are dropped separately in special metal or wooden boxes of cylindrical or hexagonal shape. Every plane carries three or four

such boxes, which are thrown down one by one. Each box contains arms for about five parachutists. The contents of the box are:

(1) Rifles
(2) "Potato-masher" grenades
(3) Antitank rifles with tripod mounts, which can be fired from the shoulder
(4) Machine guns with tripod mounts. These gun mounts are solid and steady, with a screw type elevating and traversing mechanism.

Every parachutist carries a revolver in his belt. One man in each five-man group is armed with an automatic rifle and detachable mount. Though this rifle has a 215-yard range, effective fire cannot ordinarily be delivered beyond 75 yards.

In his trouser pockets the parachutist carries two egg-shaped hand grenades. These grenades have a dependable safety mechanism and are not dangerous to handle. He is also equipped with a jacknife for cutting the parachute straps.

The parachutist is clothed as follows:

(1) High shoes, laced on the sides, with heavy rubber soles;
(2) Wide trousers, sport type;
(3) Shirt, khaki color, with brown or yellow collar bearing the number of the unit set in white metal triangles;
(4) Overalls, of grey-green color, worn over the trousers and shirt. These overalls are wide, with short sleeves and much room in the legs. They are fastened with zippers. The pocket on the left side also has a zipper fly.
(5) Gloves;
(6) Steel helmet, without visor, held on by two straps. The helmet may be sand-colored.

Ammunition for the revolver and rifle is carried in a pouch or simply in the soldier's pocket. Rifle ammunition totalling 20 clips of five rounds per clip is carried by each man in a bandolier. Ammunition for the automatic rifle, consisting of six 30-round clips, is carried on the back in two pouches joined by a strap. Machine-gun ammunition is slung in a bandolier.

The parachutist also wears a field belt, to which are attached the revolver, two cartridge pouches, a canteen, gas mask and folded tent. Only machine gunners carry binoculars. Food is carried in the trouser pockets.

23 August 1940

PECULIARITIES OF ARTILLERY ACTION IN WOODED COUNTRY.
[Osobennosti deystviy artilerii v lesu.] Lieutenant E. Sviridov

Artillery action in forest combat is of a very singular nature, especially where the terrain is boggy and intersected by ravines. Dense woods, marshes, narrow defiles render difficult effective artillery fire in support of infantry. Nevertheless, the experience of the war in Finland proves that artillery of any caliber, from antitank guns to heavy howitzers, can and must support the infantry and further the latter's advance in all kinds of forest action, under all conditions.

In one of the engagements against the Finns, a Finnish antitank gun was holding up the Russian advance along the only available road. The gun was painted white and was so well camouflaged that it was completely invisible to our tank crews. A mountain gun was sent for and was placed to the right of the road along which the tanks had to pass, about 200 yards from the enemy gun. After the mountain gun was in position, a tank was sent on ahead. The enemy antitank gun fired. Spotting the position of the enemy gun by its flash, our gunner immediately opened up with shrapnel, setting his aim at five. The enemy gun personnel was killed by the initial burst and the gun itself was then destroyed by high explosive shells. Our tanks thereupon proceeded to carry out their mission.

This, of course, does not mean that direct fire will be the basic method in forest action.

25 August 1940

THE ADVANCE GUARD BATTALION IN ENCOUNTER COMBAT.
[Avangardniy batalyon vo vstryechnom boyu.] Colonel P. Sergeyev

The general mission of the advance guard is to guarantee the most favorable conditions for the deployment of the main body and for the entry of the latter into engagement with the enemy. Operating on a wide front, frequently in cooperation with the tanks of the main body, with the support of strong artillery fire and attack aviation, the advance guard by a swift blow at the moment of encounter upsets the enemy security units and boldly attacks the enemy main forces. The task of the advance guard is to keep the enemy from readily knowing the maneuver undertaken by the main body, and at the same time to gain information with respect to enemy dispositions and maneuver.

The actions of the advance guard should fully correspond to the general situation and to the decision of the commander of the main body. It is therefore extremely important that the commander of the advance guard always be apprised of any change in the situation or in the plan of action of his senior commander.

The advance guard of a regiment, advancing in a separate column, is composed of a reinforced rifle battalion.

The advance guard has a column depth of about a mile. It will be able to deploy into a line of advance guard outposts in about 45 to 50 minutes. The necessary conditions to this are that the infantry moves at a rate of a half mile per 12 minutes, that short halts are abolished and that all orders are given on the move. An effort to step up the pace to four or five miles an hour will save from 15 to 20 minutes. For deploying the main body of the regiment on the line of the advance guard, when the column of the regiment is from 2 to 2½ miles long and the distance between the head of the column and the line of deployment is the same, about two hours will be required. These time calculations are based upon the simultaneous entry into action of all the elements of the regiment. When these elements enter the engagement in consecutive order, the deployment of the leading battalion may be accomplished 30 to 40 minutes earlier. A "one jump" movement will cut the time down forty or fifty per cent. Such a movement, however, with large forces always runs into difficulties.

In this way the advance guard will engage the enemy independently for from one to one and a half hours. As the elements of the main body are moved up into action the advance guard becomes a part of the general combat disposition, most frequently forming an advance element.

27 August 1940

ROVING GUNS.
[Kochuyushchiye Orudya.] Major N. Zhdanov

Roving guns are especially designated for the purpose of misleading the enemy with respect to the number and location of the basic firing positions of the defensive artillery. In addition to this the fire of roving guns should damage enemy morale and material.

If the enemy begins to advance with his main forces, with or without a short preparation, the roving guns will be used by the defense in small numbers and for a short time only. Frequently under such conditions it will be possible to employ them only partially or not at all.

In case the enemy contacts the outpost line of resistance at sunset and is making preparations to attack at dawn, the roving guns will be active during the night. It must be remembered that night artillery raids should not only be sudden but powerful as well. As a rule these raids should be directed against terrain adjoining the OPL where the movements of small enemy units are possible, against road junctions and probable enemy troop concentrations situated from 1 to 2½ miles beyond the OPL. For night fire roving sections or even entire batteries should be employed.

When the enemy attack is not to be expected within 24 hours or more — and in a war of maneuver such a possibility is not to be excluded — roving guns will assume special importance in the daytime. It is highly advisable in this case to use roving sections, if only partially. The quota from each artillery battalion supporting the infantry is one battery.

The selection of a field of action for roving guns, whose mission it is to distract the enemy fire from points occupied by the defending forces, is possible only on the scale of a large unit. The commander of an artillery battalion, when choosing positions for roving guns, may not know that nearby higher authority has designated a point for the regimental shock group or a firing position for the corps battery. In such an event the enemy fire, directed against the roving guns, may be dangerous to their neighbors as well.

In addition to this the roving guns of separate artillery battalions, in acting individually, may create the impression of organized defensive artillery fire.

The conclusion follows: it is imperative that roving gun operations be planned on a divisional scale. In the headquarters of the division artillery commander the completeness of such planning will depend on the time factor.

29 August 1940

THE PATHS OF DEVELOPMENT OF TANK TECHNIQUE.
[Puti razvitya tankovoy tekhniki.] Army Engineer Professor N. Gruzdev

The author takes a cursory look at the technical evolution of the tank from the World War of 1914-1918 to the present day. According to him modern conditions call for three types of tanks:

(1) Tanks whose principal quality will be to pursue a course of action jointly with the infantry in an area of intensive artillery fire.

(2) Tanks whose principal quality — while preserving a necessary minimum of the other qualities — will be speed. These will be the "long range" tanks.

(3) Tanks capable of "gnawing through" fortified zones while cooperating with troops of the other arms. So far there has been no case where such tanks have been used. They should carry tremendous fire power in addition to heavy defensive armor.

Besides these three basic types of tanks there may be other types for the execution of auxiliary missions. In estimating the quantitative relation between tanks of the various types, it is necessary to consider the nature and background of the anticipated war.

The problem of supply for tanks, above all for the "long range" tanks, is of the utmost importance. Practice shows that tank units which have successfully accomplished a breakthrough are forced to mark time while waiting for supplies or fuel to be brought up.

Along with the traditional competition between armor and projectile, the further development of tanks meets resistance in the still unsolved problem of overcoming erected obstacles. Artillery fire will not stop the tanks; but engineering technique, with mines and permanent fortifications, will be able to stop the mass of armored vehicles. This problem is the most acute confronting tank experts.

COOPERATION OF AVIATION AND ARTILLERY IN THE BREAKTHROUGH OF A DEFENSIVE ZONE.
[Vzaimodeystvye avyatsii i artillerii pri proryvye oboronitelnoy polosy.] Colonel A. Makovskiy

The missions of aviation supporting the offensive action of ground troops during the breakthrough of a defensive zone are very complicated and important. These missions are basically as follows: the aviation conducts a photographic reconnaissance of the enemy defensive zone. Reconnaissance lowers the enemy's defensive ability; it taxes him physically and morally through the so-called "exhausting actions." Reference is made here to the systematic bombing of the enemy, by day and by night, before the start of

the offensive. The aviation takes part in the direct preparations for the attack, striking at individual targets and strengthening the effect of artillery against the more important objectives in the defensive zone. The aviation isolates the battlefront from the enemy reserves and makes impossible the bringing up of supplies. It aids ground troops in overcoming intermediate defensive positions and strong points, and also collaborates in the encirclement and complete destruction of the hostile forces. Finally, it covers the attacking forces, especially the shock group, from enemy aviation.

The possibilities of aviation in combat should be neither minimized nor overestimated. It is entirely unsound to assign to aviation such missions as the demolition of artificial and anti-infantry and antitank obstacles. At the same time it cannot be denied that at certain stages of the attack it will be necessary to concentrate the efforts of the entire air complement upon the support of the ground forces.

It should always be remembered that in war victory is not won because in a certain sector of the front there is a heavy concentration of all the various kinds of troops. Victory is the result of the prudent coordination of all weapons, in the light of the individual qualities of each.

In distributing targets between artillery and aviation it should be borne in mind that artillery is capable of throwing out a greater quantity of metal than is aviation. Thus, its technical equipment permits one heavy artillery regiment to discharge from 500 to 600 tons of shells during a four-hour preparation. In order to drop from aircraft an equal weight of bombs, one flight of 500 to 600 short-range bombers would be necessary. Furthermore, the accuracy of artillery fire at medium distances is much greater than that of aerial bombing from medium altitudes.

Aviation has this advantage, that it is virtually indifferent to how far its targets are behind the front line of resistance. On the other hand, with artillery, as the firing distance increases the accuracy of the fire is sharply reduced. In addition to this, aviation can drop a great load of metal at one time.

From this it will be seen that, as a rule, it is not advisable to assign to aviation, targets which can be readily dealt with by artillery. Otherwise, aviation will be employed without regard for its combat qualities, and "aviation targets," situated in the deep rear, or inaccessible to artillery for other reasons, will remain without the necessary counteraction. Exceptions to this rule may be permitted only in the event that the enemy defensive zone contains very important and strongly fortified centers of resistance, the destruction of which will require especially powerful fire concentration. In such cases aviation will usually supplement the artillery fire, but not vice versa.

MARINE CORPS GAZETTE

November 1940

TOWARD A BETTER LANDING FORCE. Lieutenant F.P. Henderson

A REVIEW OF CAMOUFLAGE LITERATURE. Lieut.Colonel W.P.T. Hill

THE UNITED STATES MARINE CORPS. BRIEF OUTLINE OF ITS HISTORY AND ACTIVITIES. James C. Jenkins

MILITARWISSENSCHAFTLICHE MITTEILUNGEN (Austria)

BY LIEUTENANT JOSEPH DASHER, O.R.C.

March 1940

THE LAW OF NATIONS IN THE PRESENT WAR.
[Das Völkerrecht im heutigen Kriege.] Dr. Weber

The author reviews the development of international law, placing special emphasis on its alleged violations by the British Empire. According to him the law of nations is observed by the British so long as it does not conflict with the interests of the Empire.

Worthy of mention is the author's interpretation of the meaning of international law to the Third Reich. His summary of the subject constitutes a virtual statement of Nazi war aims.

Present-day international law, he says, is an effort to interfere with the internal affairs of sovereign states.

The Great Powers have been constantly attempting to establish their own mode of government in all states, from the Peace of Westphalia to the present day.

Aside from essential organic weaknesses of the law of nations, England through her selfish deportment has obstructed this law, both in war and in peace.

In the present-day order of European states a law of nations is an absolute necessity.

From all this the following propositions are deduced:

England is a foreign substance in the body of European nations. She must be cast out together with all the spiritual influences which up to now she has wielded over the continental law of nations. The European law of nations must be fundamentally renovated. The following must be understood: the Great Powers will guarantee this law within their living spaces. For instance, Germany will do so in Middle Europe, and Italy in the Mediterranean basin. The good of National Socialism will be the principal influence on the different points of the law, especially where foreign nationalities are concerned, such as in case of Bohemia and Poland.

THE MILITARY IMPORTANCE FOR FRANCE OF HER COLONIES.
[Die militärische Bedeutung der Kolonien für Frankreich.] A. Walter Bode

THE CONFLICT IN EASTERN ASIA.
[Der Konflikt in Ostasien.] Major General T. von Lerch

A review of Sino-Japanese operations during the period 15 December 1939 to 15 January 1940.

September 1940

BOMBS ON ENGLAND.
[Bomben auf England.] Major General Emil Paschek

A review of the war from 24 July to 23 August 1940.

WHY FRANCE HAD TO LOSE THE WAR.
[Warum hat Frankreich den Krieg verlieren müssen?] (I) Lieut. Commander Handel-Mazzetti

Historical background of the recent Franco-German war, reaching back into the early centuries.

THE OCCUPATION BY GERMANY OF THE BRITISH CHANNEL ISLANDS OF JERSEY AND GUERNSEY.
[Die englischen Kanalinseln Jersey und Guernsey von Deutschland besetzt.] Colonel R. Mlaker

In the bay between Brittany and the Cotentin peninsula are situated five populated islands, and several small, craggy fishermens' islands known as the Channel or Norman Islands. They are but 89 miles distant from the southern coast of England. The total area of the islands is 121 square miles, and their population is 98,000 (856 to a square mile). The five largest islands are: Jersey (72 square miles, main city St. Hélier with 31,000 inhabitants); Guernsey (41 square miles, main city St. Peter Port); Alderney (5 square miles, St. Anne); Sark and Herm. Composed of granite, gneiss and crystalline slate, these islands geologically and geographically undoubtedly belong to France. The inhabitants speak a Norman dialect, and though a part of England for 900 years, the official language is French.

The islands are of especial importance for coastal defense, as well as a starting point for military operations against England.

October 1940

RETALIATION AGAINST LONDON.
[Vergeltung gegen London.] Major General Emil Paschek

Review of the war from 24 August to 24 September 1940, with emphasis on the aerial bombing of London, which the author describes as "retaliatory."

WHY FRANCE HAD TO LOSE THE WAR.
[Warum had Frankreich den Krieg verlieren müssen?] (II) (Conclusion) Lieut.Commander Handel-Mazzetti

---

THE CONFLICT IN EAST ASIA.
[Der Konflikt in Ostasien.] Major General T. von Lerch

Review of the Sino-Japanese War from 15 June to 15 September 1940.

On 7 July 1940 the Press Section of the Imperial Japanese GHQ released a review of the Japanese successes in China during the three-year period of hostilities. The length of the battle front in China is 2,850 miles, and the area of Chinese territory under Japanese occupation totals 1,000,000 square miles, which is 2.4 times the size of Japan proper. The Japanese war booty consists of:

1,398	heavy and field guns
1,859	mine throwers
359	quick firing and antiaircraft guns
4,156	heavy machine guns
12,352	light machine guns
357,700	rifles
898	armored vehicles
2,331	trucks
30	warships.

According to this Japanese source the Chinese left 1,587,000 killed on the battlefields; and the total of Chinese casualties, all included, exceeds 3,000,000, as against 85,000 Japanese killed.

November 1940

THE AUSTRIAN NAVY IN THE SYRIAN WAR.
[Vor 100 Jahren. Die österreichische Marine im syrischen Krieg.] Captain S. Erno Klein

The story of exploits of the Austrian Navy in the Syrian War, 1838-1840.

THE MILITARY ALLIANCE BETWEEN THE CENTRAL AXIS AND JAPAN.
[Militärbündnis der Mittelmächte mit Japan.] Major General Emil Paschek

The plan of the failing British Empire to plunge the world into the flames of a second World War with the aid of the United States has brought the Berlin-Rome Axis ever closer to Tokio.

The Tripartite Agreement, concluded on 27 September, confirms the leadership of Europe in Germany and Italy, and that of East Asia in Japan. It binds the contracting parties to full military collaboration against attack,

and above all it restrains America from waging a senseless war. Thus, this agreement serves the cause of world peace, which was disturbed when Japan was provoked in her operations in China. British efforts to gain Russia's support have proved fruitless and the relations between Moscow and Tokio are visibly improving.

THE PRODUCTION OF IRON AND STEEL AS A FOUNDATION FOR THE CONDUCT OF WAR.
[Die Eisen- und Stahlerzeugung als Grundlage der Kriegführung.] Dr. K. Klein

The present war has placed Germany in possession of or with exclusive access to the richest iron ore mines in Europe; and the iron and steel production of Greater Germany, after the war, will far exceed that of the United States.

THE CONFLICT IN EAST ASIA.
[Der Konflikt in Ostasien.] Major General T. von Lerch

Review of Sino-Japanese operations from 15 September to 25 October 1940.

MILITARY ENGINEER

January-February 1941

ENGINEERS IN BATTLE. Captain P.W. Thompson
EMERGENCY CANTONMENT CONSTRUCTION. Prepared in the Office of the Quartermaster General
SANTEE-COOPER DEVELOPMENT. Lieutenant Colonel K.H. Talbot
THE STRATEGIC VALUE OF ALASKA. Anthony J. Dimond
AN ANALYSIS OF THE NEW ORGANIZATION OF GENERAL ENGINEER UNITS. Captain C.M. Myers
INVESTIGATION AND RECONSTRUCTION OF THE FORT PECK DAM SLIDE. Jay S. Leland, Jr.
THE SELECTIVE SERVICE SYSTEM AND ITS COOPERATION WITH INDUSTRY. Major J.F. Battley
AIR RAID SHELTERS. C.G. Flebus
NEW ENGLAND HARBORS AND CHANNELS. John P. Luby
FUELING THE MECHANIZED UNITS. B. Orchard Lisle
TANK CAMOUFLAGE AT FORT BENNING. Lieutenant Colonel W.F. Heavey

MILITARY SURGEON

December 1940

OUR MEDICAL PREPAREDNESS FOR MODERN WAR. (Presidential address) Major General C.R. Reynolds, U.S. Army, Retired
THE MEDICAL SERVICE IN NATIONAL DEFENSE. Brigadier General R.F. Metcalfe
STRUCTURAL AND OTHER PRECAUTIONS AGAINST AIR RAID RISKS IN HOSPITALS

January 1941

MEDICAL AND SANITARY CARE OF THE CIVILIAN POPULATION NECESSITATED BY ATTACKS FROM HOSTILE AIRCRAFT. (The Wellcome Prize Essay, 1940) Captain L.W. Johnson
THE VETERANS' ADMINISTRATION AND NATIONAL DEFENSE. Brigadier General Frank T. Hines
THE DENTAL SERVICE IN THE MILITARY ESTABLISHMENT. Brigadier General L.C. Fairbank
THE MEDICAL OFFICERS' RESPONSIBILITY IN THE PRESENT EMERGENCY. Leon A. Fox
NUTRITION AND NATIONAL DEFENSE. Morris L. Drazin, M.D.
A METHOD OF ARMORY PREPARATION FOR FIELD EXERCISES. Captain G.W. Ainlay, M.C., Neb. N.G.
PREANESTHETIC MEDICATION WITH SPECIAL CONSIDERATION OF THE PROBLEMS IN MAXILLO-FACIAL SURGERY. Edward E. Lyman, D.D.S.

February 1941

PREVENTION AND TREATMENT OF SHOCK IN THE COMBAT ZONE. Captain D.B. Kendrick, Jr.

"Plasma" may be among new words soon finding their way into your vocabulary if results and findings of the medical profession continue present trends and unless something else still better is developed for the purpose. Search for more effective, on-the-spot treatment of "shock" patients brings with it "plasma," a term new to most laymen.

Plasma is a substance derived from human blood — 500 parts of it yield about 260 parts of plasma. Plasma does not require "typing" nor the cross-matching of individuals as is necessary in present blood-transfusion. Plasma can be kept in storage much longer.

Since shock may determine life or death of a wounded man, the author's 12-page discussion of how to prevent and treat shock in the combat zone would seem to be of interest to every soldier. The use of plasma is compared with other shock treatments under varying conditions.

A SYSTEM OF RECORDS FOR THE HOSPITAL CLEARING STATION. Captains D.G. Friend and H.S. Reid, Mass. N.G.

NAVAL INSTITUTE PROCEEDINGS

December 1940

THE MOSQUITO STINGS. Lieutenant R.H. Smith
FUTURE NAVAL WAR. Lieutenant F.G. Percival, U.S. Navy, Retired

January 1941

MALTA, FOCAL POINT OF MEDITERRANEAN CONTROL. Lieutenant W.M. Gullett
BLOOD BOTTLED FOR DEFENSE. Robert P. MacHatton
THREE CONFEDERATE SUBMARINES. OPERATIONS AT NEW ORLEANS, MOBILE, AND CHARLESTON, 1862-64. David W. Thomson
WAKE ISLAND. Homer C. Votaw

QUARTERMASTER REVIEW

November-December 1940

THE FIRST ARMY MANEUVERS. OPERATION OF THE QUARTERMASTER COMPANY, LIGHT MAINTENANCE, THEREIN. Major D.G. Paston & Lieut. I.M. Annenberg
SUPPLY OF ARMORED TROOPS BY AIR CORPS. W. Paschasius
ARMY CONSTRUCTION. Major A.L. Biolante
FIRE SAFETY OF TIMBER CONSTRUCTION

January-February 1941

MANEUVERS WITH THE FOURTH ARMY — 1940. Colonel R.E. Smyser
THEORETICAL AND PRACTICAL FUNDAMENTALS OF DRIVING IN OPEN TERRAIN. By Herr Dischler. (Translated from article in "Die Panzertruppe," May 1940.)
REMOUNT PROCUREMENT OPERATIONS. Colonel E.N. Hardy
THE "61ST CA" MECHANIZED FORCE. Captain B.D. Gill, CA (AA)

REVISTA MILITAR (Argentina)

BY MAJOR G.B. DRUMMOND, Field Artillery-Reserve

August 1940

ORGANIZATION OF THE BOLIVIAN ARMY.
[Sintesis de la organizacion del Ejercito de Bolivia.]

The President is the Commander in Chief. The Council of National Defense consists of all members of the Cabinet and the Chief of Staff of the Army.

The General Staff is organized in the same four sections as is ours. The fifth section is designated "Historical, Geography and Archives," and is charged with planning for national defense. There are seven chiefs of arms and services.

The country is divided into eight military regions and the regions are subdivided into districts. The region is the proper command of a general officer who receives orders directly from the Ministry of National Defense.

The mobile army consists of six infantry divisions and two cavalry divisions. The infantry division consists of four regiments of three battalions each, supplemented by engineer, signal, supply, and medical troops. The cavalry division also consists of four regiments of two groups each. A group consists of three squadrons, equivalent to our troop.

Military service is compulsory for all between the ages of 19 and 49 years. From 19 to 25 years of age — Regular Army; 25 to 32 years of age — Ordinary Reserve; 32 to 40 years of age — Extraordinary Reserve; 40 to 49 years of age — Territorial Guard.

Service schools maintained are: War College, for higher command; Schools of Arms, for company officers; Military College, for staff officers; Air School; Signal School; and School for Armorers and Mechanics.

THE SPIRITUAL ORIGIN OF THE ARGENTINE ARMY.
[La ascendencia espiritual del Ejército Argentino.] Dr. Alberto Baldrich

This lecture delivered by Dr. Alberto Baldrich of the faculty of Philosophy and Letters of Buenos Aires traces the integration of the military esprit of the Argentines. Establishing its foundation in Greek and Roman history, the speaker carries the growth of this spirit through the Crusades and finally to the struggles for South American independence.

September 1940

THE ZONE OF THE INTERIOR.
[Zonas del interior.] Colonel D. Laureano Orencio Anaya

A discussion of the problems of general mobilization, particularly with regard to exploitation of available resources.

FRENCH, ENGLISH, AND NORTH AMERICAN ADMIRALS WITH SQUADRON COMMAND OR DIPLOMATIC MISSIONS IN THE PLATA (1829-1852).
[Almirantes franceses, ingleses y norteamericanos con mando de escuadra o misiones diplomaticas en la Plata, (1829-1852).] Captain Hector R. Ratto, Argentine Navy

This lecture by Captain Ratto, Argentine Navy, treats of the personalities and conduct of certain French, English and American naval commanders

on duty in the Plata River during that period 1829-52. Following the Napoleonic conquest of Spain, revolt broke out in various South American colonies. In Argentina stable government was not established, and when Rosas became the fourth president within three years, France, England and the United States sent naval vessels to Buenos Aires. There they remained until a constitution for the new government was created.

This period coincides with the pronouncement of the Monroe Doctrine. Personalities discussed are: Roussin, Leblanc, and Maekan (French); Purveis, Pasley, and Inglefield (England); and Vohoores and Pendergrast (American).

CALCULATING ARTILLERY CONCENTRATIONS.
[Cálculo de densidad para los fuegos de artilleria.] Captain Bernardo E. Mombello

A rather detailed discussion of the preparation of scheduled fires. It is noted that the methods of determining rates of fire and number of rounds necessary for neutralization and destruction are similar to American practice.

This article also contains type forms of combat orders and methods of designating fire missions. The method is voluminous and apparently does not contemplate the fire direction center.

BY COLONEL F.M. BARROWS, Field Artillery

October 1940

THE COLLECTION OF ORGANIC LAWS OF THE FRENCH ARMY.
[El cuerpo de leyes orgánicas del ejército francés.] General D. Jorge A. Giovaneli

---

PROTECTION OF AN AERIAL BASE OR OF AN ADVANCED AIRDROME.
[Protección de una base aérea o de un aeródromo adelantado.] Captain Edmundo H. Civati

---

AVIATION RESERVE. A MEANS OF TURNING OUT RESERVE PILOTS.
[La reserva de aviación.] Captain Pablo C. Passio

ANTIAIRCRAFT PROTECTION FOR CAVALRY BY MACHINE GUNS.
[Protección antiaérea con ametralladoras, en caballeria.] Lieutenant Juan Amarfil Lucero

---

EMPLOYMENT OF WATER AS AN OBSTACLE.
[Empleo del agua como obstáculo.] Lieutenant Emilio A. Bonnecarrere

In this article is treated the employment of water as an obstacle in campaign, in the installation of interceptives, excluding all those cases in which the hydrographic accidents of the terrain constitute in themselves an obstacle without the need of artificial reinforcement.

COUNT ALFRED VON SCHLIEFFEN.
[Conde Alfred von Schlieffen.] (Translation) General von Cochenhausen

---

MACHINE GUNS AND AUTOMATIC GUNS IN ANTIAIRCRAFT DEFENSE.
[Ametralladoras y canones automáticos en la defensa antiaéra.]

November 1940

MARCH OF THE 1ST ARMY DIVISION.
[Marcha de la 1a División de Ejército.] (November 1940)

As a crowning work of the final exercises at Campo de Mayo, the 1st Division of the Army made a march of approximately 50 miles in one day.

This march was completed in 24 hours with satisfactory results, notwithstanding the quality of the personnel of this division which is made up of men from the Federal Capital, that is to say, generally of a sedentary life, which is not the best training for military forces. The excellent results were due to the method of preparation of the troops from the beginning of the year, and which consisted in:

Basic gymnastics of Danish type to give elasticity and resistance to the personnel. This exercise was given to the troops barefooted in order to strengthen the sole of the foot. Measures were also taken to harden the skin by means of baths with a solution of permanganate and picric acid.

Training marches with a gradual increase in equipment, and covering, the first time, a distance of between 6 and 9 miles.

Forced marches, both day and night, with full field equipment, progressing from 9 miles a march to 18 miles.

Constant inspection of the footwear and feet.

The infantry used new socks for the march, but required them to be washed 5 or 6 times in order to free them from the sizing (i.e., the glutinous material used by the manufacturer) which, with the dust, forms a kind of emery powder that chafes and injures the foot.

The troops were allotted for the march, per company, some 15 pairs of fibre sandals to be used when discomfort of the feet was felt or the beginning of chafing was noted.

REVUE MILITAIRE SUISSE (Switzerland)

BY MAJOR M.R. KAMMERER, Infantry

September 1940

WE MOVE ON POLAND.
[Wir zogen gegen Polen. — Réflexions et commentaires d'un lecteur.]

A review of the book by Colonel Montfort.

Colonel Montfort gives us the impressions made on him by the book "Wir zogen gegen Polen," published by the VII Army Corps.

The first impression is that there is little change in warfare. The second impression is that of an unheard of boldness on the part of the German forces, an offensive spirit pushed to the extreme, an absolute defiance of death.

The author then cites illustrations indicating an apparent lack of contact, an independence of operations particularly in the lower units. This was due probably to the fact that the operations were moving too rapidly to maintain contact.

Other lessons learned from this book are:

Technical arms may become combatant arms at any time.
Leaders must be out in front.
Infantry weapons are all-purpose weapons and will often be in the front lines.
Extensive use of radio communications is necessary in operations that move so rapidly.

October 1940

THE FUTURE OF FORTIFICATIONS.
[L'avenir de la fortification.] Colonel Lecomte

This is the first of two articles on fortifications by Colonel Lecomte. He summarizes his own article as follows:

Any stationary weapon is obviously useless if the enemy doesn't appear within its radius of action. A poorly protected weapon is likewise useless. Hence only long-range weapons and weapons protecting key points should be mounted on a fixed mount and protected by concrete. Artillery and infantry weapons must remain mobile and must be provided with protection that will not interfere with that mobility.

The main line of resistance and key points of other defensive lines should be protected by obstacles capable of stopping infantry and tanks. Natural obstacles should be used wherever available.

Communications should be installed underground.

THE BATTLE OF THE ALPS.
[La bataille des Alpes sur le front de la 4e armée.] (I) Lieut.Colonel Pederzani

This is a translation of an Italian article on the operations of the Fourth Army in the Alps. It appears in several parts. This first part covers the operations in the Doire Baltée sector.

November 1940

MOBILE FORTRESSES.
[Fortresses mobiles.] Colonel Lecomte

The author draws the conclusion that while a rigid system of fortifications has been proved insufficient for the defense of frontiers, such a system will be very valuable if supplemented by sufficient numbers of tanks. A fixed system of forts enables the enemy to locate their position and learn the details of their construction long before war is ever declared. By adding mobile forts (tanks) to this system a degree of uncertainty always remains as to where and when a new fort may appear. Particularly desirable are heavily armored machine guns and infantry cannon capable of shifting position readily.

THE BATTLE OF THE ALPS.
[La bataille des Alpes sur le front de la 4e armée.] (II) Lieut.-Colonel Pederzani

Second and third parts of an article on the operations in the Alps. The second part covers the Mont-Cenis-Bardonnéche sector; the third part discusses the operations in the Mont-Genèvre area.

ROYAL AIR FORCE QUARTERLY (Great Britain)

December 1940

SOME HINTS TO A NEW STAFF OFFICER. By R.N.

ROYAL ENGINEERS JOURNAL (Great Britain)

December 1940

FIELD-MARSHAL EARL KITCHENER AS SECRETARY OF STATE FOR WAR. AN APPRECIATION. Major-General H.L. Pritchard

THE GERMAN ENGINEERS IN THE CHEMIN DES DAMES OFFENSIVE, 1918. Brigadier-General Sir James E. Edmonds

ENGINEERS IN THE BLITZKRIEG. Captain P.W. Thompson, U.S. Army
THE PRINCIPLES OF COMBINED OPERATIONS. Brigadier W.G.S. Dobbie
OPERATION OF FIELD LIGHTING SETS, 4 KW. Lieutenant Nuttall
THE MIND OF THE SOLDIER. By "Sentry"
A BRUSSELS BRIDGE SOMERSAULTS. Major G.D. Clothier

THE TANK (Great Britain)

November 1940

BRIGADE NARRATIVE. (I)
MOTOR CYCLE TRAINING

January 1941

THE VICTORY OF BRITAIN

WISSEN UND WEHR (Germany)

BY LIEUTENANT JOSEPH DASHER, O.R.C.

February 1940

THE GERMAN WAR AGAINST ENCIRCLEMENT.
[Der deutsche Krieg gegen die Einkreisung.] (I)
An account of the war during January 1940.

IRON IN THE INTERNATIONAL WAR ECONOMY DURING THE WORLD WAR.
[Das Eisen in der internationalen Kriegswirtschaft während des Weltkrieges.] Dr. F. Friedensburg

The war requirements of iron and steel of the principal powers involved in the World War of 1914-1918.

THE RUSSIAN CAPACITY FOR PRODUCTION.
[Russisches Leistungspotential.] Manfred von Busch

The Stakhanov movement toward the productive "speed-up" has produced some remarkable results for the economy of the Soviet Union, bringing about the realization of that country's potential economic strength.

The Soviet Union abounds in resources and riches that are almost incalculable. More than 4 billion tons of oil, 1,400 billion tons of coal, 12 billion tons of iron ore, some 260 million tons of manganese ore, between 11 and 12 million tons of copper, 5 million tons of lead, 10 million tons of zinc, 210,000 tons of nickel, 25 million tons of aluminum — these are some of the contents of the Soviet soil.

In pre-war Russia the development of these resources was painfully slow, even with the help of foreign capital. Some of the results attained by the Soviets are noteworthy. For instance, statistics dealing with Russian coal production show that in 1929 Soviet coal production already exceeded Russian figures for the year 1913 by 8 million tons, and in 1938 it was seven times larger than that of 1913. In 1913, with the intensive participation of French, British and Belgian capital, Russian oil fields yielded 9.2 million tons, while in 1938 the Soviets produced 30.1 million tons of oil.

Further notable results are expected.

March 1940

COLONEL GENERAL VON BRAUCHITSCH; 40 YEARS A SOLDIER.
[Generaloberst v.Brauchitsch — 40 Jahre Soldat.]
A life sketch of the German commander-in-chief.

THE GERMAN WAR AGAINST ENCIRCLEMENT.
[Der deutsche Krieg gegen die Einkreisung.] (II)
Account of the war during February and part of March, 1940.

THE FINANCING OF THE WAR.
[Die Finanzierung des Krieges.] Dr. Steimle

Germany has spent for armaments a total of 90 billion marks between the years 1933 and 1939, according to Hitler.

ARTILLERY HEADQUARTERS IN THE WORLD WAR.
[Artilleriestäbe im Weltkriege.] Major General E. Wagner

Distribution of duties in the headquarters of the artillery commander:

Adjutant: Tactical, administrative, personnel matters. Orders. Barrages, annihilating fire. Action against artillery. Contact with neighboring sectors. Mine throwers. Representation at artillery commander's Hq., and representation of the artillery commander at division Hq. Ordnance Officer (O1) will act as his substitute.

Ordnance Officer (O1): Quarters. Rations. Medical service. War diary. Gas warfare, gas prevention, reports of losses, noon and night reports. Care for subordinate headquarters. Representation at Adjutant's Hq. Escorting the commander to position. Night duty, by turns with O2 and O3. Morning reports.

Ordnance Officer (O2): Interpretation of the collective reconnaissance results (infantry, air, balloons, artillery plan, prisoner information). The exchange of intelligence with that of the neighboring sectors. Daily attention to the activity, changes, etc., of enemy artillery. Representation at Adjutant's Hq. Night duty, by turns with O1 and O3. Morning reports. O1 will act as his substitute.

Ordnance Officer (O3): Ammunition supply, storing of ammunition, munitions reports. Guns in readiness. Substitution of matériel. Removal of empties, employment of columns, the calling up of horse equipment. Hand grenades, hand weapons ammunition, flash signal ammunition. Representation at Adjutant's Hq. Night duty and morning reports, by turns with O1 and O2. O1 will act as his substitute.

Ordnance Officer (O4): Maps. Map supply to troops. Supply means of communication (telephone, flash signal equipment, aircraft radio, runners, etc.). Substitution of means of communication. Construction of position. Representation at Adjutant's Hq. Escorting the commander to position. O2 will act as his substitute.

April 1940

THE GERMAN WAR AGAINST ENCIRCLEMENT.
[Der deutsche Krieg gegen die Einkreisung.] (III)
An account of the war during the period 10 March — 9 April 1940.

INDIA AS THE CARDINAL POINT OF EUROPEAN COLONIZATION.
[Indien als Angelpunkt europäischer Kolonialgeltung.] Dr. Franz Olshaufen

---

CONVOY SHIPPING AND THE NEUTRALS.
[Geleitzug und Neutrale.] Captain v.Waldeyer-Hartz, German Navy

---

THE WAR PREPARATIONS OF THE GREAT POWERS BEFORE THE CONFERENCE OF ALGECIRAS.
[Die Kriegsvorbereitungen der Westmächte vor der Konferenz von Algeciras.] Major General Bernhard Schwertfeger
Historical events of 1905-06, just prior to the Algeciras Conference.

★

General

AMERICAN HISTORICAL REVIEW

January 1941

AN AMERICAN PLAN FOR A CANADIAN CAMPAIGN. SECRETARY JAMES MONROE TO MAJOR GENERAL JACOB BROWN, FEBRUARY, 1815

AMERICAN JOURNAL OF INTERNATIONAL LAW

January 1941

NEUTRALITY, BELLIGERENCY, AND THE PANAMA CANAL. Norman J. Padelford

ANNALS OF THE AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE

January 1941

RADIO AND PROPAGANDA. Clyde R. Miller
EUROPEAN RADIO AND THE WAR. Harold N. Graves, Jr.
COVERING A WAR FOR RADIO. Paul W. White

CURRENT HISTORY

10 January 1941

AMERICA'S EARS. TWENTY-FOUR HOURS A DAY SHORT-WAVE LISTENING POSTS ARE KEEPING TABS ON AIR COMMUNICATIONS. L.C. Gray
WORLD SHOPPER NO. 1. DONALD M. NELSON OF THE DEFENSE COMMISSION HAS APPROVED PURCHASES WHICH TOTAL NEARLY TEN BILLION DOLLARS. Donald Wilhelm

FOREIGN AFFAIRS

January 1941

IS DEFENSE ENOUGH? Raoul de Roussy de Sales
GAMELIN. André Géraud
WINGS FOR THE TROJAN HORSE. Melvin Hall and Walter Peck
BRITAIN AND THE AXIS IN THE NEAR EAST. Albert Viton
THE WAR IN THE AIR: SECOND PHASE. J.M. Spaight

FORTUNE

December 1940

U.S. FOREIGN POLICY: "SHORT OF WAR."

Some people think our policy of helping Britain without joining the fight is pusillanimous; others think it dangerous. But in a jungle world it may be common sense.

FLEET BASE

An ideal base for the U.S. Navy, presented in model photographs and diagrams, compared to such bases as do now exist.

January 1941

THE WAR DEPARTMENT

February 1941

"THE KING OF BATTLES" . . . meaning artillery, which is everything above the caliber of a machine gun. Guns and more guns, but fewer models, is the army's order of the day.

PUERTO RICO.

The U.S. efforts to make our Caribbean possession a bastion of defense.

GEOGRAPHICAL REVIEW

January 1941

THE NITRATE DISTRICT OF TARAPACÁ, CHILE: AN AERIAL TRAVERSE. John L. Rich

A CONFORMAL MAP PROJECTION FOR THE AMERICAS. O.M. Miller

THE KOPPEN CLASSIFICATION OF CLIMATES IN NORTH AMERICA. Edward A. Ackerman

LATIN-AMERICAN FOREIGN TRADE. Leonard S. Wilson

PROCEEDINGS OF THE ACADEMY OF POLITICAL SCIENCE

January 1941

THE DEFENSE OF THE UNITED STATES: PART I — THE BASES OF AN AMERICAN DEFENSE POLICY — ARMED FORCES; PART II — THE BASES OF AN AMERICAN DEFENSE POLICY — UTILIZATION OF PRODUCTIVE ENERGIES; PART III — THE DEFENSE OF THE UNITED STATES.

ROUND TABLE (Great Britain)

(FOURTH WAR NUMBER)

September 1940

THE STRATEGY OF THE WAR. (IV)

WAR ECONOMY AND FINANCE. PROBLEMS AND PROSPECTS

THE BRITISH COMMONWEALTH AT WAR

". . . It (surprise) lies more or less at the foundation of all undertakings, for without it the preponderance at the decisive point is not properly conceivable.

". . . Secrecy and rapidity are the two factors of this product; and these suppose in the government and the commander-in-chief great energy, and on the part of the army a high sense of military duty. . . ."

—Clausewitz—Surprise and Speed. From: *On War*

The strength of an army, like the power in mechanics, is estimated by multiplying the mass by the rapidity: a rapid march augments the morale of an army, and increases its means of victory. Press on!

—*Principles of War, Maxim IX*, Napoleon.

Subject Index

LIST OF PERIODICALS INDEXED AND KEY TO ABBREVIATIONS

A Ord = Army Ordnance

A Quar = Army Quarterly (Great Britain)

Cav Jour = Cavalry Journal

CA Jour = Coast Artillery Journal

FA Jour = Field Artillery Journal

Ftg Forc = Fighting Forces (Great Britain)

Inf Jour = Infantry Journal

Jour Amer Mil Inst = Journal of the American Military Institute

Jour RAMC = Journal of the Royal Army Medical Corps (Great Britain)

Jour R Art = Journal of the Royal Artillery (Great Britain)

Jour USII = Journal of the United Service Institution of India (Great Britain — India)

Kras = Krasnaya Zvyezda (Russia)

MC Gaz = Marine Corps Gazette

Mil Mitt = Militärwissenschaftliche Mitteilungen (Austria)

Mil Eng = Military Engineer

Mil Surg = Military Surgeon

Nav Inst Proc = Naval Institute Proceedings

QM Rev = Quartermaster Review

Rev Mil = Revista Militar (Argentina)

Rv Mil Suisse = Revue Militaire Suisse (Switzerland)

RAF Quar = Royal Air Force Quarterly (Great Britain)

Roy Eng Jour = Royal Engineers Journal (Great Britain)

Tank = The Tank (Great Britain)

Ws & Wr = Wissen und Wehr (Germany)

GENERAL

Amer Hist Rev = American Historical Review

Amer Jour Int Law = American Journal of International Law

Annals = Annals of the American Academy of Political and Social Science

Cur Hist = Current History

For Aff = Foreign Affairs

Fortune = Fortune

Geog Rev = Geographical Review

Proc Pol Sci = Proceedings of the Academy of Political Science

Round Table = Round Table (Great Britain)

Jan = January	**Jul** = July
Feb = February	**Aug** = August
Mar = March	**Sep** = September
Apr = April	**Oct** = October
May = May	**Nov** = November
Jun = June	**Dec** = December

A

AIR ARM

Command and Staff

Some hints to a new staff officer. (RAF Quar — Dec 1940; also "Foreign Military Digests")

Organization and Equipment

Germany's air losses in London attacks. (Ftg Forc — Dec 1940)
Late German aircraft bombers. (CA Jour — Jan-Feb 1941)
From the Chief's Office: Air infantry. (Inf Jour — Jan 1941)
Aviation reserve. (Rev Mil — Oct 1940)
Streamlining the offensive. [See page 9.]
Equipment of German parachutists. [See "Foreign Military Digests"]
Equipment of German parachutists. (Kras — 21 Aug 1940)

Training Tactics

Supply of armored troops by air corps. (QM Rev — Nov-Dec 1940)
Our air attacks on Germany. (Ftg Forc — Dec 1940)
Notes on the war in the air. (Ftg Forc — Dec 1940)
Structural and other precautions against air raid risks in hospitals. (Mil Surg — Dec 1940)
Air observation of artillery fire. (FA Jour — Feb 1941)
The victory of Britain. (Tank — Jan 1941)
The defense of the United States. (Proc Pol Sci — Jan 1941)
Air infantry. [See "Foreign Military Digests"]
Aerial landing parties and action against them. [See "Foreign Military Digests"]
Antiaircraft artillery firing against aerial landing parties. [See "Foreign Military Digests"]
Bombing of narrow targets. (Kras — 6 Jul 1940)
Combat aviation during penetration of a defensive zone. (Kras — 18 Jul 1940)
The defense of airdromes. (Kras — 9 Aug 1940)
Cooperation of aviation and artillery in the breakthrough of a defensive zone. (Kras — 29 Aug 1940)

AIR LINES

Wings for the Trojan Horse. (For Aff — Jan 1941)

AIR RAIDS

Protective Measures

Air raid shelters. (Mil Eng — Jan-Feb 1941)

AIR WARFARE

The war in the air: second phase. (For Aff — Jan 1941)
Germany's air losses in London attacks. (Ftg Forc — Dec 1940)
Our air attacks on Germany. (Ftg Forc — Dec 1940)
Notes on the war in the air. (Ftg Forc — Dec 1940)
Structural and other precautions against air raid risks in hospitals. (Mil Surg — Dec 1940)
Medical and sanitary care of the civilian populations necessitated by attacks from hostile aircraft. (Mil Surg — Jan 1941)
European air battle. (CA Jour — Jan-Feb 1941)
The victory of Britain. (Tank — Jan 1941)
Protection of an aerial base or of an advanced airdrome. (Rev Mil — Oct 1940)
Air infantry. [See "Foreign Military Digests"]
Aerial landing parties and action against them. [See "Foreign Military Digests"]
Equipment of German parachutists. [See "Foreign Military Digests"]
Antiaircraft artillery firing against aerial landing parties. [See "Foreign Military Digests"]
Italian military thought from the Napoleonic wars to our days. [See Foreign Military Digests"]
Bombing of narrow targets. (Kras — 6 Jul 1940)
The defense of airdromes. (Kras — 9 Aug 1940)

AIRCRAFT WARNING SERVICE

Aircraft warning service tests. (CA Jour — Nov-Dec 1940)

ALASKA

The strategic value of Alaska. (Mil Eng — Jan-Feb 1941)

AMMUNITION

Artillery ammunition. (A Ord — Jan-Feb 1941)

ANIMALS

Remount procurement operations. (QM Rev — Jan-Feb 1941)

ANTIAIRCRAFT ARTILLERY

Antitank and antiaircraft guns. (A Ord — Jan-Feb 1941)
European air battle. (CA Jour — Jan-Feb 1941)
Antiaircraft adapters for infantry weapons. (Inf Jour — Feb 1941)
"The King of Battles." (Fortune — Feb 1941)
Machine guns and automatic guns in antiaircraft defense. (Rev Mil — Oct 1940)
Antiaircraft artillery firing against aerial landing parties. [See "Foreign Military Digests"]
Peculiar features of antiaircraft artillery action in mountains. (Kras — 17 Jun 1940)
Antiaircraft defense of troops at night. (Kras — 14 Jul 1940)
The defense of airdromes. (Kras — 9 Aug 1940)

ANTIAIRCRAFT DEFENSE

New organization of the corps artillery brigade. (FA Jour — Nov-Dec 1940)
The retreat to Dunkirk. (FA Jour — Nov-Dec 1940)
Lighting in factories and ventilation during the black-out. (Jour RAMC — Dec 1940)
Protection of an aerial base or of an advanced airdrome. (Rev Mil — Oct 1940)
Antiaircraft protection for cavalry by machine guns. (Rev Mil — Oct 1940)
Machine guns and automatic guns in antiaircraft defense. (Rev Mil — Oct 1940)
Antiaircraft artillery firing against aerial landing parties. [See "Foreign Military Digests"]
Antiaircraft defense of troops at night. (Kras — 14 Jul 1940)
The defense of airdromes. (Kras — 9 Aug 1940)

ANTITANK

Antitank and antiaircraft guns. (A Ord — Jan-Feb 1941)
New ordnance with the cavalry division. (Cav Jour — Nov-Dec 1940)
New organization of the corps artillery brigade. (FA Jour — Nov-Dec 1940)
Antitank battery training. (FA Jour — Jan 1941)
Direct fire — 1941 edition. (FA Jour — Jan 1941)
Men in armor. (FA Jour — Jan 1941)
Antitank measures. (Pictures) (Inf Jour — Feb 1941)
Flame-throwing tanks. [See "Foreign Military Digests"]
Tanks in combat for populated areas. [See "Foreign Military Digests"]
Action against armored and tank units. (Kras — 19 Jul 1940)

ARGENTINA (ARMY OF)

The spiritual origin of the Argentine Army. (Rev Mil — Aug 1940)
The zone of the interior. (Rev Mil — Sep 1940)
Calculating artillery concentrations. (Rev Mil — Sep 1940)
Aviation reserve. (Rev Mil — Oct 1940)
March of the 1st Army Division. (Rev Mil — Nov 1940)

ARGENTINA (NAVY OF)

French, English, and North American admirals with squadron command or diplomatic missions in The Plata (1829-1852). (Rev Mil — Sep 1940)

ARMAMENT

Production for defense. (A Ord — Jan-Feb 1941)
Weapons and the army. (A Ord — Jan-Feb 1941)
Rearmament progress. (A Ord — Jan-Feb 1941)
Our armament goes forward. (A Ord — Jan-Feb 1941)
The bases of national defense. (A Ord — Jan-Feb 1941)
Flame-throwing tanks. [See "Foreign Military Digests"]
Streamlining the offensive. [See page 9.]

ARMORED FORCES

Supply of armored troops by air corps. (QM Rev — Nov-Dec 1940)
Defence tactics. (A Quar — Jan 1941)
The armored force and its development. (Cav Jour — Nov-Dec 1940)
Men in armor. (FA Jour — Jan 1941)
Streamlining the offensive. [See page 9.]
Tanks in combat for populated areas. [See "Foreign Military Digests"]

ART OF WAR — STRATEGY

The strategy of the war. (Round Table — Sep 1940)
The principles of combined operations. (Roy Eng Jour — Dec 1940)
Our medical preparedness for modern war. (Mil Surg — Dec 1940)
The development of German strategy. (A Quar — Jan 1941)
Defence tactics. (A Quar — Jan 1941)
Schlieffen as an instructor. (A Quar — Jan 1941)
The armored force and its development. (Cav Jour — Nov-Dec 1940)
Lessons from the war. (FA Jour — Jan 1941)
Time shell and the blitzkrieg. (FA Jour — Feb 1941)
Breakthrough, M-1940. (Inf Jour — Nov-Dec 1940)
On mountain warfare. (Inf Jour — Jan 1941)
New war — New soldier? (Inf Jour — Feb 1941)
The value of mechanisation in assisting to solve the defence problems of India. (Jour USII — Oct 1940)
Toward a better landing force. (MC Gaz — Nov 1940)
A reveiw of camouflage literature. (MC Gaz — Nov 1940)
We move on Poland. (Rv Mil Suisse — Sep 1940)
Streamlining the offensive. [See page 9.]
Surprise. [See "Foreign Military Digests"]
War games for battalion, regiment and division. [See "Foreign Military Digests"]
Italian military thought from the Napoleonic wars to our days. [See "Foreign Military Digests"]
The approach to the enemy defensive zone. (Kras — 16 Jun 1940)
The Paris operation. (Kras — 21 Jun 1940)
Modern defense. (Kras — 23 Jun 1940)
Combat aviation during penetration of a defensive zone. (Kras — 18 Jul 1940)
Action against armored and tank units. (Kras — 19 Jul 1940)
The advance guard battalion in encounter combat. (Kras — 25 Aug 1940)
Leadership. [See page 5.]
The commander and his general staff. [See page 20.]

ARTILLERY

Command and Staff

Leader or adviser? (FA Jour — Jan 1941)

Organization and Equipment

Artillery ammunition. (A Ord — Jan-Feb 1941)
New organization of the corps artillery brigade. (FA Jour — Nov-Dec 1940)
Corps artillery and counterbattery — German. (FA Jour — Nov-Dec 1940)
Corps artillery and counterbattery — French. (FA Jour — Nov-Dec 1940)
The Lizzard. (FA Jour — Jan 1941)
The 108th Field Artillery trainer. (FA Jour — Jan 1941)
Field artillery abroad. (FA Jour — Jan 1941)
The 105-mm howitzer. (FA Jour — Feb 1941)
Time shell and the blitzkrieg. (FA Jour — Feb 1941)
Field artillery replacement centers. (FA Jour — Feb 1941)
"The King of Battles." (Fortune — Feb 1941)
Artillery headquarters in the World War. (Ws & Wr — Mar 1940)

Training — Tactics

Bookseller in arms. (CA Jour — Jan-Feb 1941)
A plan for counterbattery in an attack of a position. (FA Jour — Nov-Dec 1940)
Corps artillery and counterbattery — German. (FA Jour — Nov-Dec 1940)
Corps artillery and counterbattery — French. (FA Jour — Nov-Dec 1940)
The retreat to Dunkirk. (FA Jour — Nov-Dec 1940)
Artillery in open warfare. (FA Jour — Nov-Dec 1940)
The defense of Hondeghem. (FA Jour — Jan 1941)
Antitank battery training. (FA Jour — Jan 1941)
Direct fire — 1941 edition. (FA Jour — Jan 1941)
The Lizzard. (FA Jour — Jan 1941)
Maps from an artilleryman's viewpoint. (FA Jour — Jan 1941)
The 108th Field Artillery trainer. (FA Jour — Jan 1941)
A mobilization training program. (FA Jour — Feb 1941)
Artillery hints. (FA Jour — Feb 1941)
Air observation of artillery fire. (FA Jour — Feb 1941)
"Duncan" Medal Essay, 1939-40. (Jour R Art — Oct 1940)
Calculating artillery concentratons. (Rev Mil — Sep 1940)
The forcing of a river by a rifle regiment. (Kras — 20 Jul 1940)
Peculiarities of artillery action in wooded country. (Kras — 23 Aug 1940)
Cooperation of aviation and artillery in the breakthrough of a defensive zone. (Kras — 29 Aug 1940)

Weapons

The 105-mm howitzer. (FA Jour — Feb 1941)
Roving guns. (Kras — 27 Aug 1940)

ATTACK

A plan for counterbattery in an attack of a position. (FA Jour — Nov-Dec 1940)
Corps artillery and counterbattery — German. (FA Jour — Nov-Dec 1940)
Corps artillery and counterbattery — French. (FA Jour — Nov-Dec 1940)
Breakthrough at Sedan. (FA Jour — Feb 1941)
Impromptu tank support. (Inf Jour — Feb 1941)
Streamlining the offensive. [See page 9.]

AUSTRIA (ARMY OF)

A soldier of Old Austria. (A Quar — Jan 1941)

AUSTRIA (NAVY OF)

The Austrian Navy in the Syrian War. (Mil Mitt — Nov 1940)

B

BLACKOUTS

Lighting in factories and ventilation during the black-out. (Jour RAMC — Dec 1940)

BOLIVIA (ARMY OF)

Organization of the Bolivian Army. (Rev Mil — Aug 1940)

BRAUCHITSCH, Colonel General Heinrich Alfred Herman von (1881-)

Colonel General von Brauchitsch; 40 years a soldier. (Ws & Wr — Mar 1940)

BREAKTHROUGH OPERATIONS

Breakthrough at Sedan. (FA Jour — Feb 1941)
Breakthrough, M-1940. (Inf Jour — Nov-Dec 1940)
Cavalry action in the development of the breakthrough. (Kras — 16 Jul 1940)
Combat aviation during penetration of a defensive zone. (Kras — 18 Jul 1940)
Tank action in the penetration of a fortified zone. (Kras — 20 Aug 1940)
Cooperation of aviation and artillery in the breakthrough of a defensive zone. (Kras — 29 Aug 1940)

C

CAMOUFLAGE

The retreat to Dunkirk. (FA Jour — Nov-Dec 1940)
A review of camouflage literature. (MC Gaz — Nov 1940)
Tank camouflage at Fort Benning. (Mil Eng — Jan-Feb 1941)
Camouflaging a crossing. (Kras — 17 Aug 1940)

CANADA (ARMY OF)

Canadian military training centres. (FA Jour — Feb 1941)

CASUALTIES

Germany's air losses in London attacks. (Ftg Forc — Dec 1940)

CAVALRY

Organization and Equipment

The armored force and its development. (Cav Jour — Nov-Dec 1940)
Our remount situation. (Cav Jour — Nov-Dec 1940)
New ordnance with the cavalry division. (Cav Jour — Nov-Dec 1940)
Motor vehicle maintenance. (Cav Jour — Nov-Dec 1940)

Training — Tactics

Defence tactics. (A Quar — Jan 1941)
Antiaircraft protection for cavalry by machine guns. (Rev Mil — Oct 1940)
Cavalry march training. [See "Foreign Military Digests"]
Cavalry action in the development of the breakthrough. (Kras — 16 Jul 1940)

CHEMICAL SERVICE

Gas gangrene. (Jour RAMC — Nov 1940)
Structural and other precautions against air raid risks in hospitals. (Mil Surg — Dec 1940)
Treatment of war wounds in France, May-June, 1940. (Jour RAMC — Dec 1940)

CLIMATOLOGY

The Köppen classification of climates in North America. (Geog Rev — Jan 1941)

COAST ARTILLERY

Training. (CA Jour — Nov-Dec 1940)
Battle practice. (CA Jour — Nov-Dec 1940)
The Coast Artillery in Panama. (CA Jour — Nov-Dec 1940)
Our Replacement Centers. (CA Jour — Jan-Feb 1941)
Motor torpedo boats in coast defense. (CA Jour — Jan-Feb 1941)
A universal bracketing fire adjustment chart. (CA Jour — Jan-Feb 1941)
The "61st CA" Mechanized Force. (QM Rev — Jan-Feb 1941)
"The King of Battles." (Fortune — Feb 1941)

COAST DEFENSE

Motor torpedo boats in coast defense. (CA Jour — Jan-Feb 1941)

COMMAND, STAFF, AND LOGISTICS

Second Army maneuvers. (CA Jour — Nov-Dec 1940)
Field artillery replacement centers. (FA Jour — Feb 1941)
From the Chief's Office: Air infantry. (Inf Jour — Jan 1941)
"Duncan" Medal Essay, 1939-40. (Jour R Art — Oct 1940)
War games for battalion, regiment and division. [See "Foreign Military Digests"]
Some hints to a new staff officer. [See "Foreign Military Digests"]
System of supplying fuel for the German Army. (Kras — 15 Jun 1940)
Leadership. [See page 5.]
The commander and his general staff. [See page 20.]

COMMERCE

Latin-American foreign trade. (Geog Rev — Jan 1941)

CONVOYS (NAVAL)

Convoy shipping and the neutrals. (Ws & Wr — Apr 1940)

COUNTERATTACK

Defence tactics. (A Quar — Jan 1941)
Action against armored and tank units. (Kras — 19 Jul 1940)

COUNTERBATTERY

A plan for counterbattery in an attack of a position. (FA Jour — Nov-Dec 1940)
Corps artillery and counterbattery — German. (FA Jour — Nov-Dec 1940)
Corps artillery and counterbattery — French. (FA Jour — Nov-Dec 1940)
The defense of Hondeghem. (FA Jour — Jan 1941)

D

DEMOLITIONS

Engineers in battle. (Mil Eng — Jan-Feb 1941)

E

ECONOMICS

War and the colleges. (Jour Amer Mil Inst — Summer 1940)
The defense of the United States. (Proc Pol Sci — Jan 1941)
Iron in the international war economy during the World War. (Ws & Wr — Feb 1940)
The Russian capacity for production. (Ws & Wr — Feb 1940)
A new arm of the German service. [See "Foreign Military Digests"]

ENGINEERS

The German engineers in the Chemin des Dames offensive, 1918. (Roy Eng Jour — Dec 1940)
Our armament goes forward. (A Ord — Jan-Feb 1941)
Engineers in battle. (Mil Eng — Jan-Feb 1941)
Emergency cantonment construction. (Mil Eng — Jan-Feb 1941)
Santee-Cooper development. (Mil Eng — Jan-Feb 1941)
An analysis of the new organization of general engineer units. (Mil Eng — Jan-Feb 1941)
Investigation and reconstruction of the Fort Peck dam slide. (Mil Eng — Jan-Feb 1941)
Air raid shelters. (Mil Eng — Jan-Feb 1941)
New England harbors and channels. (Mil Eng — Jan-Feb 1941)
Fueling the mechanized units. (Mil Eng — Jan-Feb 1941)
Tank camouflage at Fort Benning. (Mil Eng — Jan-Feb 1941)
Engineers in the blitzkrieg. (Roy Eng Jour — Dec 1940)
Operation of field lighting sets, 4 Kw. (Roy Eng Jour — Dec 1940)
A Brussels bridge somersaults. (Roy Eng Jour — Dec 1940)
Employment of water as an obstacle. (Rev Mil — Oct 1940)
Streamlining the offensive. [See page 9.]

F

FINANCE (MILITARY)

War economy and finance. (Round Table — Sep 1940)
The defense of the United States. (Proc Pol Sci — Jan 1941)
The financing of the war. (Ws & Wr — Mar 1940)

FORTIFICATIONS

The future of fortifications. (Rv Mil Suisse — Oct 1940)
Mobile fortresses. (Rv Mil Suisse — Nov 1940)
Streamlining the offensive. [See page 9.]
The Suez Canal. [See "Foreign Military Digests"]
Tank action in the penetration of a fortified zone. (Kras — 20 Aug 1940)

FRANCE (ARMY OF)

Gamelin. (For Aff — Jan 1941)
Corps artillery and counterbattery — French. (FA Jour — Nov-Dec 1940)
"Flags at Half-Mast." (Ftg Forc — Dec 1940)
Impromptu tank support. (Inf Jour — Feb 1941)
International military survey: Tanks and the fall of France. (Inf Jour — Feb 1941)
The military importance for France of her colonies. (Mil Mitt — Mar 1940)
Why France had to lose the war. (Mil Mitt — Sep, Oct 1940)
The collection of organic laws of the French Army. (Rev Mil — Oct 1940)
The Battle of the Alps. (Rv Mil Suisse — Oct, Nov 1940)
Italian operations in the Alps. [See "Foreign Military Digests"]

G

GAMELIN, General Marie Gustave (1872-)

Gamelin. (For Aff — Jan 1941)

GEOGRAPHY (MILITARY)

The strategic value of Alaska. (Mil Eng — Jan-Feb 1941)
The Suez Canal. [See "Foreign Military Digests"]

GERMANY (ARMY OF)

Finance

The financing of the war. (Ws & Wr — Mar 1940)

History

The development of German strategy. (A Quar — Jan 1941)
Streamlining the offensive. [See page 9.]

Organization and Equipment

The German engineers in the Chemin des Dames offensive, 1918. (Roy Eng Jour — Dec 1940)
Germany's air losses in London attacks. (Ftg Forc — Dec 1940)
A high-numbered German division from birth to death. (A Quar — Jan 1941)
Late German aircraft bombers. (CA Jour — Jan-Feb 1941)
Corps artillery and counterbattery — German. (FA Jour — Nov-Dec 1940)
The defense of Hondeghem. (FA Jour — Jan 1941)
Artillery hints. (FA Jour — Feb 1941)
The morale of the Reichswehr. (Jour R Art — Oct 1940)
Engineers in battle. (Mil Eng — Jan-Feb 1941)
Engineers in the blitzkrieg. (Roy Eng Jour — Dec 1940)
Streamlining the offensive. [See page 9.]
Air infantry. [See "Foreign Military Digests"]
Flame-throwing tanks. [See "Foreign Military Digests"]
Aerial landing parties and action against them. [See "Foreign Military Digests"]
Equipment of German parachutists. [See "Foreign Military Digests"]
A new arm of the German service. [See "Foreign Military Digests"]
German signal forces. [See "Foreign Military Digests"]
The equipment of German parachutists. (Kras — 21 Aug 1940)

Personnel

Schlieffen as an instructor. (A Quar — Jan 1941)
Colonel General von Brauchitsch; 40 years a soldier. (Ws & Wr — Mar 1940)

Supply

System of supplying fuel for the German Army. (Kras — 15 Jun 1940)

Training

The development of German strategy. (A Quar — Jan 1941)
The German defeat in 1918. (A Quar — Jan 1941)
Schlieffen as an instructor. (A Quar — Jan 1941)
Corps artillery and counterbattery — German. (FA Jour — Nov-Dec 1940)
The defense of Hondeghem. (FA Jour — Jan 1941)
Breakthrough at Sedan. (FA Jour — Feb 1941)
Artillery hints. (FA Jour — Feb 1941)
Breakthrough, M-1940. (Inf Jour — Nov-Dec 1940)
The little picture. (Inf Jour — Nov-Dec 1940, Feb 1941)
Engineers in battle. (Mil Eng — Jan-Feb 1941)
We move on Poland. (Rv Mil Suisse — Sep 1940)
Streamlining the offensive. [See page 9.]
Air infantry. [See "Foreign Military Digests"]
Aerial landing parties and action against them. [See "Foreign Military Digests"]
War games for battalion, regiment and division. [See "Foreign Military Digests"]
The Paris operation. (Kras — 21 Jun 1940)
Surprise. (Kras — 22 Jun 1940)

GERMANY (NAVY OF)

The U-Boat campaign. (Ftg Forc — Dec 1940)

GREAT BRITAIN (ARMY OF)

Command and Staff

Some hints to a new staff officer. (RAF Quar — Dec 1940; also "Foreign Military Digests"]

Finance

War economy and finance. (Round Table — Sep 1940)

History

Boy regiments and boy officers. (A Quar — Jan 1941)

Organization and Equipment

Some observations upon the work of a mobile surgical team. (Jour RAMC — Oct 1940)
Junior leadership. (A Quar — Jan 1941)
The Elizabethan Medical Service. (A Quar — Jan 1941)
Boy regiments and boy officers. (A Quar — Jan 1941)
European air battle. (CA Jour — Jan-Feb 1941)
"Flags at Half-Mast." (Ftg Forc — Dec 1940)
"Duncan" Medal Essay, 1939-40. (Jour R Art — Oct 1940)
The land forces of Great Britain. (Jour R Art — Oct 1940)
Cambrai 1917. (Jour R Art — Oct 1940)
The value of mechanisation in assisting to solve the defence problems of India. (Jour USII — Oct 1940)
Morale of the Indian Army. (Jour USII — Oct 1940)
The war in East Africa. A role for the Indian Army. (Jour USII — Oct 1940)
An American plan for a Canadian campaign. (Amer Hist Rev — Jan 1941)
Mechanized forces of the British army. (Kras — 10 Aug 1940)

Personnel

Some hints to a new staff officer. (RAF Quar — Dec 1940; also "Foreign Military Digests"]

Training

The British Commonwealth at war. (Round Table — Sep 1940)
Brigade narrative. (Tank — Nov 1940)
Motorcycle training. (Tank — Nov 1940)
The army's role. (Ftg Forc — Dec 1940)
Our air attacks on Germany. (Ftg Forc — Dec 1940)
Notes on the war in the air. (Ftg Forc — Dec 1940)
Junior leadership. (A Quar — Jan 1941)
European air battle. (CA Jour — Jan-Feb 1941)
"Duncan" Medal Essay, 1939-40. (Jour R Art — Oct 1940)
The victory of Britain. (Tank — Jan 1941)
The Suez Canal. [See "Foreign Military Digests"]

GREAT BRITAIN (NAVY OF)

Malta, focal point of Mediterranean control. (Nav Inst Proc — Jan 1941)
The U-Boat campaign. (Ftg Forc — Dec 1940)
The army's role. (Ftg Forc — Dec 1940)
The navy at war. (Ftg Forc — Dec 1940)
The Suez Canal. [See "Foreign Military Digests"]

GREECE (ARMY OF)

The Second German War, October-December 1940. (A Quar — Jan 1941)

H

HARBOR DEFENSE

Battle practice. (CA Jour — Nov-Dec 1940)
New England harbors and channels. (Mil Eng — Jan-Feb 1941)

I

INDIA

India as the cardinal point of European colonization. (Ws & Wr — Apr 1940)

INDIA (ARMY OF)

The value of mechanisation in assisting to solve the defence problems of India. (Jour USII — Oct 1940)
Morale of the Indian Army. (Jour USII — Oct 1940)
The war in East Africa. A role for the Indian Army. (Jour USII — Oct 1940)

INFANTRY

Organization and Equipment

A high-numbered German division from birth to death. (A Quar — Jan 1941)
Motorized divisions. (Inf Jour — Jan 1941)
From the Chief's Office: Air infantry. (Inf Jour — Jan 1941)
New war — New soldier? (Inf Jour — Feb 1941)
Infantry rifle regiment (motorized). (Inf Jour — Feb 1941)
Antiaircraft adapters for infantry weapons. (Inf Jour — Feb 1941)

Training Tactics

Defence tactics. (A Quar — Jan 1941)
Artillery in open warfare. (FA Jour — Nov-Dec 1940)
The little picture. (Inf Jour — Nov-Dec 1940, Feb 1941)
Something to shoot at. (Inf Jour — Feb 1941)
Air infantry. [See "Foreign Military Digests"]

INTELLIGENCE (MILITARY)

Covering a war for radio. (Annals — Jan 1941)
Surprise. (Kras — 22 Jun 1940)

INTERNATIONAL RELATIONS

Is defense enough? (For Aff — Jan 1941)
Wings for the Trojan Horse. (For Aff — Jan 1941)
Britain and the Axis in the Near East. (For Aff — Jan 1941)
"Flags at Half-Mast." (Ftg Forc — Dec 1940)
U.S. foreign policy: "Short of war." (Fortune — Dec 1940)
Latin-American foreign trade. (Geog Rev — Jan 1941)
The law of nations in the present war. (Mil Mitt — Mar 1940)
French, English, and North American admirals with squadron command or diplomatic missions in The Plata (1829-1852). Rev Mil — Sep 1940)
The Suez Canal. [See "Foreign Military Digests"]

ITALY (ARMY OF)

The Second German War, October-December 1940. (A Quar — Jan 1941)
The Battle of the Alps. (Rv Mil Suisse — Oct, Nov 1940)
Italian operations in the Alps. [See "Foreign Military Digests"]
Italian military thought from the Napoleonic wars to our days. [See "Foreign Military Digests"]

J

JOINT OPERATIONS

The principles of combined operations. (Roy Eng Jour — Dec 1940)

K

KITCHENER, Field Marshal Horatio Herbert (1850-1916)

Field-Marshall Earl Kitchener as Secretary of State for War. (Roy Eng Jour — Dec 1940)

KNOX, Major General Henry (1750-1806)

Bookseller in arms. (CA Jour — Jan-Feb 1941)

L

LANDING OPERATIONS

Toward a better landing force. (MC Gaz — Nov 1940)

LARGE UNITS

Corps

New organization of the corps artillery brigade. (FA Jour — Nov-Dec 1940)
Corps artillery and counterbattery — German. (FA Jour — Nov-Dec 1940)
Corps artillery and counterbattery — French. (FA Jour — Nov-Dec 1940)

Division

A high-numbered German division from birth to death. (A Quar — Jan 1941)
New ordnance with the cavalry division. (Cav Jour — Nov-Dec 1940)
Motorized divisions. (Inf Jour — Jan 1941)
Eclipse of a division. (Inf Jour — Jan 1941)
Impromptu tank support. (Inf Jour — Feb 1941)
Streamlining the offensive. [See page 9.]
War games for battalion, regiment and division. [See "Foreign Military Digests"]
The approach to the enemy defensive zone. (Kras — 16 Jun 1940)

LATIN AMERICA

Latin-American foreign trade. (Geog Rev — Jan 1941)

LAW (MILITARY AND INTERNATIONAL)

Neutrality, belligerency, and the Panama Canal. (Amer J of Int Law — Jan 1941)
The law of nations in the present war. (Mil Mitt — Mar 1940)
Convoy shipping and the neutrals. (Ws & Wr — Apr 1940)

LEADERSHIP

The development of German strategy. (A Quar — Jan 1941)
Junior leadership. (A Quar — Jan 1941)
A soldier of Old Austria. (A Quar — Jan 1941)
Leader or adviser? (FA Jour — Jan 1941)
Cambrai 1917. (Jour R Art — Oct 1940)
We move on Poland. (Rv Mil Suisse — Sep 1940)
Colonel General von Brauchitsch; 40 years a soldier. (Ws & Wr — Mar 1940)
War games for battalion, regiment and division. [See "Foreign Military Digests"]
Leadership. [See page 5.]
The commander and his general staff. [See page 20.]

LIAISON

Artillery in open warfare. (FA Jour — Nov-Dec 1940)
Tanks in combat for populated areas. [See "Foreign Military Digests"]
German signal forces. [See "Foreign Military Digests"]
Cooperation of aviation and artillery in the breakthrough of a defensive zone. (Kras — 29 Aug 1940)

LISTENING POSTS

America's ears. (Current Hist — 10 Jan 1941)

M

MACHINE GUNS

Antiaircraft protection for cavalry by machine guns. (Rev Mil — Oct 1940)
Machine guns and automatic guns in antiaircraft defense. (Rev Mil — Oct 1940)

MALTA

Malta, focal point of Mediterranean control. (Nav Inst Proc — Jan 1941)

MANEUVER IN WARFARE

Italian operations in the Alps. [See "Foreign Military Digests"]

MANEUVERS

The First Army maneuvers. Operation of the Quartermaster Company, Light Maintenance, therein. (QM Rev — Nov-Dec 1940)
Maneuvers with the Fourth Army — 1940. (QM Rev — Jan-Feb 1941)
The "61st CA" Mechanized Force. (QM Rev — Jan-Feb 1941)
War games for battalion, regiment and division. [See "Foreign Military Digests"]

MAP PROBLEMS

War games for battalion, regiment and division. [See "Foreign Military Digests"]

MARCHES

The retreat to Dunkirk. (FA Jour — Nov-Dec 1940)
March of the 1st Army Division. (Rev Mil — Nov 1940)
Cavalry march training. [See "Foreign Military Digests"]
The organization of a night march by tanks. (Kras — 10 Aug 1940)

MARINE CORPS

Toward a better landing force. (MC Gaz — Nov 1940)
The United States Marine Corps. (MC Gaz — Nov 1940)

MARKSMANSHIP

Something to shoot at. (Inf Jour — Feb 1941)

MECHANIZATION

Tanks. (A Ord — Jan-Feb 1941)
The armored force and its development. (Cav Jour — Nov-Dec 1940)
Motor vehicle maintenance. (Cav Jour — Nov-Dec 1940)
The value of mechanisation in assisting to solve the defence problems of India. (Jour USII — Oct 1940)

Fueling the mechanized units. (Mil Eng — Jan-Feb 1941)
The "61st CA" Mechanized Force. (QM Rev — Jan-Feb 1941)
Streamlining the offensive. [See page 9.]
Mechanized forces of the British Army. (Kras — 10 Aug 1940)

MEDICAL SERVICE

Some observations upon the work of a mobile surgical team. (Jour RAMC — Oct 1940)
The organization and running of an ambulance train. (Jour RAMC — Oct 1940)
The treatment of wound shock. (Jour RAMC — Oct 1940)
Military ophthalmology. (Jour RAMC — Nov 1940)
Gas gangrene. (Jour RAMC — Nov 1940)
Blood bottled for defense. (Nav Inst Proc — Jan 1941)
Our medical preparedness for modern war. (Mil Surg — Dec 1940)
The medical service in national defense. (Mil Surg — Dec 1940)
Structural and other precautions against air raid risks in hospitals. (Mil Surg — Dec 1940)
Medical and sanitary care of the civilian population necessitated by attacks from hostile aircraft. (Mil Surg — Jan 1941)
The Veterans' Administration and national defense. (Mil Surg — Jan 1941)
The dental service in the military establishment. (Mil Surg — Jan 1941)
The medical officers' responsibility in the present emergency. (Mil Surg — Jan 1941)
Nutrition and national defense. (Mil Surg — Jan 1941)
A method of armory preparation for field exercises. (Mil Surg — Jan 1941)
Preanesthetic medication with special consideration of the problems in Maxillo-Facial surgery. (Mil Surg — Jan 1941)
The Elizabethan Medical Service. (A Quar — Jan 1941)
Treatment of war wounds in France, May-June, 1940. (Jour RAMC — Dec 1940)
The war and ourselves. (Jour RAMC — Dec 1940)
Prevention and treatment of shock in the combat zone. (Mil Surg — Feb 1941)
A system of records for the hospital clearing station. (Mil Surg — Feb 1941)

MEDITERRANEAN

Malta, focal point of Mediterranean control. (Nav Inst Proc — Jan 1941)
The Eastern Mediterranean. (Ftg Forc — Dec 1940)

METEOROLOGY

The Köppen classification of climates in North America. (Geog Rev — Jan 1941)

MINES

Engineers in battle. (Mil Eng — Jan-Feb 1941)

MOBILITY

Tanks. (A Ord — Jan-Feb 1941)
Corps artillery and counterbattery — German. (FA Jour — Nov-Dec 1940)
Corps artillery and counterbattery — French. (FA Jour — Nov-Dec 1940)
Mobile armored OP. (FA Jour — Jan 1941)
Motorized divisions. (Inf Jour — Jan 1941)
The value of mechanisation in assisting to solve the defence problems of India. (Jour USII — Oct 1940)
The future of fortifications. (Rv Mil Suisse — Oct 1940)
Mobile fortresses. (Rv Mil Suisse — Nov 1940)
Streamlining the offensive. [See page 9.]
Cavalry march training. [See "Foreign Military Digests"]
Italian military thought from the Napoleonic wars to our days. [See "Foreign Military Digests"]

MOBILIZATION

A mobilization training program. (FA Jour — Feb 1941)
The selective service system and its cooperation with industry. (Mil Eng — Jan-Feb 1941)
The zone of the interior. (Rev Mil — Sep 1940)

Industrial Mobilization

Production for defense. (A Ord — Jan-Feb 1941)
Weapons and the army. (A Ord — Jan-Feb 1941)
Rearmament progress. (A Ord — Jan-Feb 1941)
Our armament goes forward. (A Ord — Jan-Feb 1941)
The selective service system and its cooperation with industry. (Mil Eng — Jan-Feb 1941)
The defense of the United States. (Proc Pol Sci — Jan 1941)
A new arm of the German service. [See "Foreign Military Digests"]

MORALE (MILITARY)

The morale of the Reichswehr. (Jour R Art — Oct 1940)
Morale of the Indian Army. (Jour USII — Oct 1940)
Italian military thought from the Napoleonic wars to our days. [See "Foreign Military Digests"]

MOTORCYCLES

Motor cycle training. (Tank — Nov 1940)

MOTORIZATION

Motor vehicle maintenance. (Cav Jour — Nov-Dec 1940)
Motorized divisions. (Inf Jour — Jan 1941)
Infantry rifle regiment (motorized). (Inf Jour — Feb 1941)
The value of mechanisation in assisting to solve the defence problems of India. (Jour USII — Oct 1940)
Theoretical and practical fundamentals of driving in open terrain. (QM Rev — Jan-Feb 1941)
Streamlining the offensive. [See page 9.]
Italian operations in the Alps. [See "Foreign Military Digests"]
Mechanized forces of the British army. (Kras — 10 Aug 1940)

MOUNTAIN WARFARE

On mountain warfare. (Inf Jour — Jan 1941)
Italian operations in the Alps. [See "Foreign Military Digests"]
Peculiar features of antiaircraft artillery action in mountains. (Kras — 17 Jun 1940)
The organization of rear areas in the mountains. (Kras — 17 Jul 1940)

N

NATIONAL DEFENSE

War and the colleges. (Jour Amer Mil Inst — Summer 1940)
Is defense enough? (For Aff — Jan 1941)
World shopper No. 1. (Cur Hist — 10 Jan 1941)
The army's role. (Ftg Forc — Dec 1940)
Production for defense. (A Ord — Jan-Feb 1941)
Weapons and the army. (A Ord — Jan-Feb 1941)
The bases of national defense. (A Ord — Jan-Feb 1941)
Tanks. (A Ord — Jan-Feb 1941)
The medical service in national defense. (Mil Surg — Dec 1940)
Medical and sanitary care of the civilian population necessitated by attacks from hostile aircraft. (Mil Surg — Jan 1941)
The Veterans' Administration and national defense. (Mil Surg — Jan 1941)
Nutrition and national defense. (Mil Surg — Jan 1941)
"Flags at Half-Mast." (Ftg Forc — Dec 1940)
The man selected for service. (Inf Jour — Nov-Dec 1940)
The value of mechanisation in assisting to solve the defence problems of India. (Jour USII — Oct 1940)
The strategic value of Alaska. (Mil Eng — Jan-Feb 1941)
The selective service system and its cooperation with industry. (Mil Eng — Jan-Feb 1941)
An American plan for a Canadian campaign. (Amer Hist Rev — Jan 1941)
U.S. foreign policy: "Short of war." (Fortune — Dec 1940)
Puerto Rico. (Fortune — Feb 1941)
The defense of the United States. (Proc Pol Sci — Jan 1941)
The Suez Canal. [See "Foreign Military Digests"]

NAVAL WARFARE

The principles of combined operations. (Roy Eng Jour — Dec 1940)
The mosquito stings. (Nav Inst Proc — Dec 1940)
Future naval war. (Nav Inst Proc — Dec 1940)
Malta, focal point of Mediterranean control. (Nav Inst Proc — Jan 1941)
Three Confederate submarines. (Nav Inst Proc — Jan 1941)
The U-Boat campaign. (Ftg Forc — Dec 1940)
The navy at war. (Ftg Forc — Dec 1940)
The war at sea — September-November, 1940. (A Quar — Jan 1941)
French, English, and North American admirals with squadron command or diplomatic missions in The Plata (1829-1852). (Rev Mil — Sep 1940)
Italian military thought from the Napoleonic wars to our days. [See "Foreign Military Digests"]

NIGHT OPERATIONS

Antiaircraft defense of troops at night. (Kras — 14 Jul 1940)
The organization of a night march by tanks. (Kras — 10 Aug 1940)

NITRATE

The nitrate district of Tarapaca, Chile: An aerial traverse. (Geog Rev — Jan 1941)

O

OBSERVATION POSTS

Mobile armored OP. (FA Jour — Jan 1941)

OBSTACLES

Engineers in battle. (Mil Eng — Jan-Feb 1941)
Employment of water as an obstacle. (Rev Mil — Oct 1940)
Tanks in combat for populated areas. [See "Foreign Military Digests"]

OIL

Roumania. (Ftg Forc — Dec 1940)
Fueling the mechanized units. (Mil Eng — Jan-Feb 1941)

OPEN WARFARE

Artillery in open warfare. (FA Jour — Nov-Dec 1940)

ORDNANCE

Production for defense. (A Ord — Jan-Feb 1941)
Weapons and the army. (A Ord — Jan-Feb 1941)
Rearmament progress. (A Ord — Jan-Feb 1941)
Our armament goes forward. (A Ord — Jan-Feb 1941)
Antitank and antiaircraft guns. (A Ord — Jan-Feb 1941)
Tanks. (A Ord — Jan-Feb 1941)
Artillery ammunition. (A Ord — Jan-Feb 1941)
New ordnance with the cavalry division. (Cav Jour — Nov-Dec 1940)
The Lizzard. (FA Jour — Jan 1941)

OVERSEAS EXPEDITIONS

The principles of combined operations. (Roy Eng Jour — Dec 1940)

P

PANAMA CANAL

Neutrality, belligerency, and the Panama Canal. (Amer J of Int Law — Jan 1941)

PARACHUTES

Air infantry. [See "Foreign Military Digests"]
Aerial landing parties and action against them. [See "Foreign Military Digests"]
Equipment of German parachutists. [See "Foreign Military Digests"]
Antiaircraft artillery firing against aerial landing parties. [See "Foreign Military Digests"]
Equipment of German parachutists. (Kras — 21 Aug 1940)

PRINCIPLES OF WAR

Streamlining the offensive. [See page 9.]

PROPAGANDA

America's ears. (Cur Hist — 10 Jan 1941)
Radio and propaganda. (Annals — Jan 1941)
European radio and the war. (Annals — Jan 1941)
Covering a war for radio. (Annals — Jan 1941)

PSYCHOLOGY (MILITARY)

The mind of the soldier. (Roy Eng Jour — Dec 1940)

PUERTO RICO

Puerto Rico. (Fortune — Feb 1941)

Q

QUARTERMASTER SERVICE

The First Army maneuvers. Operation of the Quartermaster Company, Light Maintenance, therein. (QM Rev — Nov-Dec 1940)
Army construction. (QM Rev — Nov-Dec 1940)
Fire safety of timber construction. (QM Rev — Nov-Dec 1940)
Our remount situation. (Cav Jour — Nov-Dec 1940)
Motor vehicle maintenance. (Cav Jour — Nov-Dec 1940)
Don't blame the Constructing Quartermaster! (CA Jour — Jan-Feb 1941)
Emergency cantonment construction. (Mil Eng — Jan-Feb 1941)
Maneuvers with the Fourth Army — 1940. (QM Rev — Jan-Feb 1941)
Theoretical and practical fundamentals of driving in open terrain. (QM Rev — Jan-Feb 1941)
Remount procurement operations. (QM Rev — Jan-Feb 1941)

R

RADIO COMMUNICATION

Short Wave

America's ears. (Cur Hist — 10 Jan 1941)
Radio and propaganda. (Annals — Jan 1941)
European radio and the war. (Annals — Jan 1941)
Covering a war for radio. (Annals — Jan 1941)

RAIDS

Structural and other precautions against air raid risks in hospitals. (Mil Surg — Dec 1940)
Medical and sanitary care of the civilian population necessitated by attacks from hostile aircraft. (Mil Surg — Jan 1941)

RECONNAISSANCE

The armored force and its development. (Cav Jour — Nov-Dec 1940)

REMOUNT SERVICE

Our remount situation. (Cav Jour — Nov-Dec 1940)
Remount procurement operations. (QM Rev — Jan-Feb 1941)

RIVER CROSSINGS

Two crossings of the Danube in 1916. (A Quar — Jan 1941)
Engineers in the blitzkrieg. (Roy Eng Jour — Dec 1940)
Streamlining the offensive. [See page 9.]
The forcing of a river by a rifle regiment. (Kras — 20 Jul 1940)

ROUTES COMMUNICATIONS

Bridges Bridging

Engineers in battle. (Mil Eng — Jan-Feb 1941)
A Brussels bridge somersaults. (Roy Eng Jour — Dec 1940)

Highways Military Roads

Transportation: The Fifth "G"? (CA Jour — Nov-Dec 1940)

Waterways

The Suez Canal. [See "Foreign Military Digests"]

RUMANIA

Roumania. (Ftg Forc — Dec 1940)

RUSSIA

The Russian capacity for production. (Ws & Wr — Feb 1940)

RUSSIA (ARMY OF)

Cavalry march training. [See "Foreign Military Digests"]
Bombing of narrow targets. (Kras — 6 Jul 1940)
Cavalry action in the development of the breakthrough. (Kras — 17 Jul 1940)

On the combat equipment of tank crew members. (Kras — 18 Jul 1940)

S

SCHLIEFFEN, General Field Marshal Graf Alfred von (1833-1913)

Schlieffen as an instructor. (A Quar — Jan 1941)
Count Alfred von Schlieffen. (Rev Mil — Oct 1940)

SEA POWER

The principles of combined operations. (Roy Eng Jour — Dec 1940)
The army's role. (Ftg Forc — Dec 1940)

SIGNAL COMMUNICATIONS

America's ears. (Cur Hist — 10 Jan 1941)
Radio and propaganda. (Annals — Jan 1941)
European radio and the war. (Annals — Jan 1941)
Covering a war for radio. (Annals — Jan 1941)

SIGNAL SERVICE

Radio intercept and interference. (CA Jour — Nov-Dec 1940)
Tactical value of commercial phones. (Inf Jour — Jan 1941)
Effective use of training pictures. (Inf Jour — Feb 1941)
We move on Poland. (Rv Mil Suisse — Sep 1940)
German signal forces. [See "Foreign Military Digests"]

SOUTH AMERICA

Wings for the Trojan Horse. (For Aff — Jan 1941)
The nitrate district of Tarapaca, Chile: An aerial traverse. (Geog Rev — Jan 1941)

SUBMARINES

Three Confederate submarines. (Nav Inst Proc — Jan 1941)

SUEZ CANAL

The Suez Canal. [See "Foreign Military Digests"]

SUPPLY

Supply of armored troops by air corps. (QM Rev — Nov-Dec 1940)
The principles of combined operations. (Roy Eng Jour — Dec 1940)
World shopper No. 1. (Cur Hist — 10 Jan 1941)
Production for defense. (A Ord — Jan-Feb 1941)
Weapons and the army. (A Ord — Jan-Feb 1941)
Rearmament progress. (A Ord — Jan-Feb 1941)
The retreat to Dunkirk. (FA Jour — Nov-Dec 1940)
The strategic value of Alaska. (Mil Eng — Jan-Feb 1941)
Fueling the mechanized units. (Mil Eng — Jan-Feb 19.1)
Maneuvers with the Fourth Army — 1940. (QM Rev — Jan-Feb 1941)
Remount procurement operations. (QM Rev — Jan-Feb 1941)
The nitrate district of Tarapaca, Chile: An aerial traverse. (Geog Rev — Jan 1941)
Latin-American foreign trade. (Geog Rev — Jan 1941)
The production of iron and steel as a foundation for the conduct of war. (Mil Mitt — Nov 1940)
Iron in the international war economy during the World War. (Ws & Wr — Feb 1940)
The Russian capacity for production. (Ws & Wr — Feb 1940)
System of supplying fuel for the German Army. (Kras — 15 Jun 1940)

SURPRISE

Surprise. [See "Foreign Military Digests"]
Surprise. (Kras — 22 Jun 1940)

T

TACTICS OPERATIONS

Defensive Combat

Defence tactics. (A Quar — Jan 1941)
The armored force and its development. (Cav Jour — Nov-Dec 1940)
The retreat to Dunkirk. (FA Jour — Nov-Dec 1940)
The approach to the enemy defensive zone. (Kras — 16 Jun 1940)
Modern defense. (Kras — 23 Jun 1940)
Mechanized forces of the British army. (Kras — 10 Aug 1940)
Battalion mine throwers in defense. (Kras — 16 Aug 1940)

Offensive Combat

The armored force and its development. (Cav Jour — Nov-Dec 1940)
A plan for counterbattery in an attack of a position. (FA Jour — Nov-Dec 1940)
Corps artillery and counterbattery — German. (FA Jour — Nov-Dec 1940)
Corps artillery and counterbattery — French. (FA Jour — Nov-Dec 1940)
Breakthrough at Sedan. (FA Jour — Feb 1941)
Breakthrough, M-1940. (Inf Jour — Nov-Dec 1940)
Impromptu tank support. (Inf Jour — Feb 1941)
Streamlining the offensive. [See page 9.]
Tanks in combat for populated areas. [See "Foreign Military Digests"]
Italian military thought from the Napoleonic wars to our days. [See "Foreign Military Digests"]
The Paris operation. (Kras — 21 Jun 1940)
Combat aviation during penetration of a defensive zone. (Kras — 18 Jul 1940)
Mechanized forces of the British army. (Kras — 10 Aug 1940)
Tank action in the penetration of a fortified zone. (Kras — 20 Aug 1940)
The advance guard battalion in encounter combat. (Kras — 25 Aug 1940)
Cooperation of aviation and artillery in the breakthrough of a defensive zone. (Kras — 29 Aug 1940)

Protective and Defensive Measures

Surprise. [See "Foreign Military Digests"]

Special Warfare

Guerrilla warfare. (FA Jour — Feb 1941)
On mountain warfare. (Inf Jour — Jan 1941)
Italian operations in the Alps. [See "Foreign Military Digests"]
Peculiar features of antiaircraft artillery action in mountains. (Kras — 17 Jun 1940)
Peculiarities of artillery action in wooded country. (Kras — 23 Aug 1940)

TANKS

Supply of armored troops by air corps. (QM Rev — Nov-Dec 1940)
Tanks. (A Ord — Jan-Feb 1941)
Defence tactics. (A Quar — Jan 1941)
The armored force and its development. (Cav Jour — Nov-Dec 1940)
New ordnance with the cavalry division. (Cav Jour — Nov-Dec 1940)
Antitank battery training. (FA Jour — Jan 1941)
Direct fire — 1941 edition. (FA Jour — Jan 1941)
Men in armor. (FA Jour — Jan 1941)
Mobile armored OP. (FA Jour — Jan 1941)
Impromptu tank support. (Inf Jour — Feb 1941)
Antitank measures. (Pictures) (Inf Jour — Feb 1941)
International military survey: Tanks and the fall of France. (Inf Jour — Feb 1941)
Engineers in battle. (Mil Eng — Jan-Feb 1941)
Fueling the mechanized units. (Mil Eng — Jan-Feb 1941)
Tank camouflage at Fort Benning. (Mil Eng — Jan-Feb 1941)
Mobile fortresses. (Rv Mil Suisse — Nov 1940)
Streamlining the offensive. [See page 9.]
Flame-throwing tanks. [See "Foreign Military Digests"]
Tanks in combat for populated areas. [See "Foreign Military Digests"]
The Paris operation. (Kras — 21 Jun 1940)
On the combat equipment of tank crew members. (Kras — 18 Jul 1940)
Action against armored and tank units. (Kras — 19 Jul 1940)
The forcing of a river by a rifle regiment. (Kras — 20 Jul 1940)
The organization of a night march by tanks. (Kras — 10 Aug 1940)
Mechanized forces of the British Army. (Kras — 10 Aug 1940)
Battalion mine throwers in defense. (Kras — 16 Aug 1940)
Tank action in the penetration of a fortified zone. (Kras — 20 Aug 1940)
The paths of development of tank technique. (Kras — 29 Aug 1940)

TOPOGRAPHY SURVEYING

Maps Mapping

Maps from an artilleryman's viewpoint. (FA Jour — Jan 1941)
A conformal map projection for the Americas. (Geog Rev — Jan 1941)

TRANSPORTATION

Supply of armored troops by air corps. (QM Rev — Nov-Dec 1940)
Transportation: The Fifth "G"? (CA Jour — Nov-Dec 1940)
From the Chief's Office: Air infantry. (Inf Jour — Jan 1941)
The value of mechanisation in assisting to solve the defence problems of India. (Jour USII — Oct 1940)
Maneuvers with the Fourth Army — 1940. (QM Rev — Jan-Feb 1941)
Theoretical and practical fundamentals of driving in open terrain. (QM Rev — Jan-Feb 1941)
Aerial landing parties and action against them. [See "Foreign Military Digests"]
System of supplying fuel for the German Army. (Kras — 15 Jun 1940)

TROOP MOVEMENTS

From the Chief's Office: Air infantry. (Inf Jour — Jan 1941)
Aerial landing parties and action against them. [See "Foreign Military Digests"]

U

UNITED STATES (ARMY OF)

Auxiliary Military Forces

The bases of national defense. (A Ord — Jan-Feb 1941)
A method of armory preparation for field exercises. (Mil Surg — Jan 1941)
Training. (CA Jour — Nov-Dec 1940)
The future of the citizen soldier. (Inf Jour — Feb 1941)

Forts and Military Establishments

Our Replacement Centers. (CA Jour—Jan-Feb 1941)
Don't blame the Constructing Quartermaster! (CA Jour — Jan-Feb 1941)
Field artillery replacement centers. (FA Jour — Feb 1941)
Puerto Rico. (Fortune — Feb 1941)

Organization and Equipment

Army construction. (QM Rev — Nov-Dec 1940)
The bases of national defense. (A Ord — Jan-Feb 1941)
New organization of the corps artillery brigade. (FA Jour — Nov-Dec 1940)
New war — New soldier? (Inf Jour — Feb 1941)
The defense of the United States. (Proc Pol Sci — Jan 1941)
Streamlining the offensive. [See page 9.]

Personnel

The bases of national defense. (A Ord — Jan-Feb 1941)
The man selected for service. (Inf Jour — Nov-Dec 1940)

Supply

World Shopper No. 1. (Cur Hist — 10 Jan 1941)
Production for defense. (A Ord — Jan-Feb 1941)
Weapons and the army. (A Ord — Jan-Feb 1941)
Remarmament progress. (A Ord — Jan-Feb 1941)
Our armament goes forward. (A Ord — Jan-Feb 1941)

Training

The First Army maneuvers. (QM Rev — Nov-Dec 1940)
The bases of national defense. (A Ord — Jan-Feb 1941)
A method of armory preparation for field exercises. (Mil Surg — Jan 1941)
Training. (CA Jour — Nov-Dec 1940)
Second Army maneuvers. (CA Jour — Nov-Dec 1940)
Effective use of training pictures. (Inf Jour — Feb 1941)
Maneuvers with the Fourth Army — 1940. (QM Rev — Jan-Feb 1941)
The "61st CA" Mechanized Force. (QM Rev — Jan-Feb 1941)
Streamlining the offensive. [See page 9.]

War Department

An American plan for a Canadian campaign. (Amer Hist Rev — Jan 1941)
The War Department. (Fortune — Jan 1941)
Leadership. [See page 5.]
The commander and his general staff. [See page 20.]

UNITED STATES (NAVY OF)

Organization and Equipment

The mosquito stings. (Nav Inst Proc — Dec 1940)
Future naval war. (Nav Inst Proc — Dec 1940)
Blood bottled for defense. (Nav Inst Proc — Jan 1941)
Three Confederate submarines. (Nav Inst Proc — Jan 1941)
The bases of national defense. (A Ord — Jan-Feb 1941)
Our medical preparedness for modern war. (Mil Surg — Dec 1940)
Motor torpedo boats in coast defense. (CA Jour — Jan-Feb 1941)
Fleet base. (Fortune — Dec 1940)
The defense of the United States. (Proc Pol Sci — Jan 1941)

Training

Future naval war. (Nav Inst Proc — Dec 1940)
Three Confederate submarines. (Nav Inst Proc — Jan 1941)
The bases of national defense. (A Ord — Jan-Feb 1941)

V

VETERANS' ADMINISTRATION

The Veterans' Administration and national defense. (Mil Surg — Jan 1941)

W

WAKE ISLAND

Wake Island. (Nav Inst Proc — Jan 1941)

WAR PEACE

War and the colleges. (Jour Amer Mil Inst — Summer 1940)
Is defense enough? (For Aff — Jan 1941)
"Flags at Half-Mast." (Ftg Forc — Dec 1940)
The strategic value of Alaska. (Mil Eng — Jan-Feb 1941)
Neutrality, belligerency, and the Panama Canal. (Amer Jour of Int Law — Jan 1941)
The law of nations in the present war. (Mil Mitt — Mar 1940)
The Russian capacity for production. (Ws & Wr — Feb 1940)
Convoy shipping and the neutrals. (Ws & Wr — Apr 1940)

WARS

ASIA

JAPAN-CHINA (1930-)

The Battle of Mai Chio, 1936. (Jour Amer Mil Inst — Summer 1940)
The conflict in Eastern Asia. (Mil Mitt — Mar, Oct, Nov 1940)

UNITED STATES

REVOLUTION (1775-1783)

Bookseller in arms. (CA Jour — Jan-Feb 1941)
The American War of Independence. (Jour R Art — Oct 1940)

WAR OF 1812 (1812-1814)

An American plan for a Canadian campaign. (Amer Hist Rev — Jan 1941)

CIVIL WAR (1861-1865)

Three Confederate submarines. (Nav Inst Proc — Jan 1941)

PHILIPPINE INSURRECTION (1899-1902)

Gunner in Luzon — Conclusion. (FA Jour — Nov-Dec 1940)

WORLD WAR (1914-1918)

C — Socio-Economic History

The war preparations of the Great Powers before the Conference of Algeciras. (Ws & Wr — Apr 1940)

E — General Military History Commanders

A soldier of Old Austria. (A Quar — Jan 1941)
Cambrai 1917. (Jour R Art — Oct 1940)
Field-Marshal Earl Kitchener as Secretary of State for War. (Roy Eng Jour — Dec 1940)

G — Arms and Services

ARTILLERY

Artillery headquarters in the World War. (Ws & Wr — Mar 1940)

ENGINEERS

The German engineers in the Chemin des Dames offensive, 1918. (Roy Eng Jour — Dec 1940)

INFANTRY

A high-numbered German division from birth to death. (A Quar — Jan 1941)

TANKS

Streamlining the offensive. [See page 9.]

H — Military Conduct of the War in the Field

Big Bertha. (Ftg Forc — Dec 1940)
The German defeat in 1918. (A Quar — Jan 1941)
Two crossings of the Danube in 1916. (A Quar — Jan 1941)
Cambrai 1917. (Jour R Art — Oct 1940)
Iron in the international war economy during the World War. (Ws & Wr — Feb 1940)

J — Campaigns and Battles

ASIATIC AREA — TURKISH THEATER

Egyptian Front

The Suez Canal. [See "Foreign Military Digests"]

EUROPEAN AREA — BALKAN THEATER

Rumanian Front

Two crossings of the Danube in 1916. (A Quar — Jan 1941)

EUROPEAN AREA — WESTERN THEATER

1917

Cambrai 1917. (Jour R Art — Oct 1940)

1918

The German engineers in the Chemin des Dames offensive, 1918. (Roy Eng Jour — Dec 1940)
Big Bertha. (Ftg Forc — Dec 1940)
The German defeat in 1918. (A Quar — Jan 1941)

EUROPEAN WAR (1939-)

Supply of armored troops by air corps. (QM Rev — Nov-Dec 1940)
The strategy of the war. (Round Table — Sep 1940)
War economy and finance. (Round Table — Sep 1940)
The British Commonwealth at war. (Round Table — Sep 1940)
Brigade narrative. (Tank — Nov 1940)
Some observations upon the work of a mobile surgical team. (Jour RAMC — Oct 1940)
Is defense enough? (For Aff — Jan 1941)
Gamelin. (For Aff — Jan 1941)
Britain and the Axis in the Near East. (For Aff — Jan 1941)
The war in the air: second phase. (For Aff — Jan 1941)
Germany's air losses in London attacks. (Ftg Forc — Dec 1940)
The Eastern Mediterranean. (Ftg Forc — Dec 1940)
The U-Boat campaign. (Ftg Forc — Dec 1940)
The navy at war. (Ftg Forc — Dec 1940)
Our air attacks on Germany. (Ftg Forc — Dec 1940)
Notes on the war in the air. (Ftg Forc — Dec 1940)
The war at sea — September-November, 1940. (A Quar — Jan 1941)
The Second German War, October-December 1940. (A Quar — Jan 1941)
European air battle. (CA Jour — Jan-Feb 1941)
The Graeco-Italian campaign. (CA Jour — Jan-Feb 1941)
Action at Dakar. (CA Jour — Jan-Feb 1941)
The retreat to Dunkirk. (FA Jour — Nov-Dec 1940)
Artillery in open warfare. (FA Jour — Nov-Dec 1940)
The defense of Hondeghem. (FA Jour — Jan 1941)
Men in amor. (FA Jour — Jan 1941)
Lessons from the war. (FA Jour — Jan 1941)
Breakthrough at Sedan. (FA Jour — Feb 1941)
Time shell and the blitzkrieg. (FA Jour — Feb 1941)
Artillery hints. (FA Jour — Feb 1941)
Breakthrough, M-1940. (Inf Jour — Nov-Dec 1940)
The little picture. (Inf Jour — Nov-Dec 1940, Feb 1941)
Eclipse of a division. (Inf Jour — Jan 1941)
Impromptu tank support. (Inf Jour — Feb 1941)
International military survey: Tanks and the fall of France (Inf Jour — Feb 1941)
Treatment of war wounds in France, May-June, 1940. (Jour RAMC — Dec 1940)
The war and ourselves. (Jour RAMC — Dec 1940)
The war in East Africa. A role for the Indian Army. (Jour USII — Oct 1940)
Engineers in battle. (Mil Eng — Jan-Feb 1941)
Engineers in the blitzkrieg. (Roy Eng Jour — Dec 1940)
A Brussels bridge somersaults. (Roy Eng Jour — Dec 1940)
The victory of Britain. (Tank — Jan 1941)
European radio and the war. (Annals — Jan 1941)
Covering a war for radio. (Annals — Jan 1941)
The law of nations in the present war. (Mil Mitt — Mar 1940)
Bombs on England. (Mil Mitt — Sep 1940)
Why France had to lose the war. (Mil Mitt — Sep, Oct 1940)
The occupation by Germany of the British Channel Islands of Jersey and Guernsey. (Mil Mitt — Sep 1940)
Retaliation against London. (Mil Mitt — Oct 1940)
The military alliance between the Central Axis and Japan. (Mil Mitt — Nov 1940)
The production of iron and steel as a foundation for the conduct of war. (Mil Mitt — Nov 1940)
We move on Poland. (Rv Mil Suisse — Sep 1940)
The Battle of the Alps. (Rv Mil Suisse — Oct, Nov 1940)
The German war against encirclement. (Ws & Wr — Feb, Mar, Apr 1940)
Colonel General von Brauchitsch; 40 years a soldier. (Ws & Wr — Mar 1940)
The financing of the war. (Ws & Wr — Mar 1940)
Streamlining the offensive. [See page 9.]
Aerial landing parties and action against them. [See "Foreign Military Digests"]
German signal forces. [See "Foreign Military Digests"]
Italian operations in the Alps. [See "Foreign Military Digests"]
The Paris operation. (Kras — 21 Jun 1940)
Surprise. (Kras — 22 Jun 1940)
Peculiarities of artillery action in wooded country. (Kras — 23 Aug 1940)

WATER

Employment of water as an obstacle. (Rev Mil — Oct 1940)

WEAPONS

The mosquito stings. (Nav Inst Proc — Dec 1940)
Big Bertha. (Ftg Forc — Dec 1940)
Production for defense. (A Ord — Jan-Feb 1941)
Weapons and the army. (A Ord — Jan-Feb 1941)
Our armament goes forward. (A Ord — Jan-Feb 1941)
Antitank and antiaircraft guns. (A Ord — Jan-Feb 1941)
New ordnance with the cavalry division. (Cav Jour — Nov-Dec 1940)
Field artillery abroad. (FA Jour — Jan 1941)
The 105-mm howitzer. (FA Jour — Feb 1941)
Antitank measures. (Inf Jour — Feb 1941)
Antiaircraft adapters for infantry weapons. (Inf Jour — Feb 1941)
Toward a better landing force. (MC Gaz — Nov 1940)
"The King of Battles." (Fortune — Feb 1941)
We move on Poland. (Rv Mil Suisse — Sep 1940)
The future of fortifications. (Rv Mil Suisse — Oct 1940)
Streamlining the offensive. [See page 9.]
Roving guns. (Kras — 27 Aug 1940)

WITHDRAWAL

The retreat to Dunkirk. (FA Jour — Nov-Dec 1940)

"When you seem to be most prodigal of the soldier's blood, you spare it, however, by supporting your attacks well and by pushing them with the greatest vigor to deprive time of the means of augmenting your losses."

—Frederick the Great

BIBLIOGRAPHY

TO

STREAMLINING THE OFFENSIVE

Artillery and the Tank. (Field Artillery Journal, July-August 1940)

The New German Army Showing Organization of Panzer Division. By Lt.Col. A.T. McAnsh. (Cavalry Journal, July-August 1940)

War on Wheels. The Evolution of an Idea. By Captain C.R. Kutz. Harrisburg, Pa.: Military Service Publishing Co., 1940.

Blitzkrieg. By Major Reginald Hargreaves, British Army, Ret. (Cavalry Journal, September-October 1940)

Genesis of Modern War. By John E. Kelly. (Cavalry Journal, September-October 1940)

The Armored Force. By Lt.Col. Percy G. Black, G.S.C. (Cavalry Journal, September-October 1940)

General de Gaulle's Doctrine of War. By Major E.W. Sheppard, O.B.E., M.C. (Cavalry Journal, British, October 1940)

Armored Units, Armament, Organization and Characteristics. By Lt.Col. Victor W.B. Wales, Cav. (Lecture to Command and General Staff School Class, January 1940).

Mobile Forces. By Zarif. (Journal of the United Service Institution of India, April 1940)

The German Armored Divisions. (From a translation of portions of the book, "Achtung Panzer" by General Heinz Guderian, German Army, made in the Translation Section of the Military Intelligence Division. Condensed by Major William H. Speidel, Inf., in the Command and General Staff School Military Review, September 1940)

The Real War 1914-1918. By Liddell Hart. London: Faber & Faber, Ltd., 1930.

Hellenistic Military and Naval Developments. By W.W. Tarn. London: Cambridge University Press, 1930.

The Tank. "Full Circle Goes the Wheel." By Brevet Major H.G. Eady, R.E. (Journal of the Royal United Service Institution, February 1926)

The Art of Modern Warfare. By Colonel Hermann Foertsch. (Translation from the German) New York: Veritas Press, 1940.

Supply in Modern War. By Lt.Col. G.C. Shaw. London: Faber & Faber, Ltd., 1938.

Armor in World History. (Militar-Wochenblatt, 11 October 1940)

Power Plus Speed. By Captain Ehrgott. (Infantry Journal, July-August 1940)

Horsed and Mechanized. By Captain F.C. Hitchcock. (Cavalry Journal, British, April 1940)

Motor und Pferd. By General Heinz Guderian. (Illustrirte Zeitung, March 1940)

Breakthrough Tanks. By Captain C.R. Kurtz. (Army Ordnance, November-December 1940)

Notes on German Mechanization. By Maj. Gen. J.F.C. Fuller. (Fighting Forces, October 1940)

Notes on the Artillery of Mechanized Divisions. By Brig. General de Stefanis. (Condensed by Lt.Col. E.M. Benitez, C.A.C. in the Command and General Staff School Military Review, September 1940)

Certain Conclusions From Air Force Action in the West. By Col. M. Nikolskoy. (Krasnaya Zvyezda, 22 October 1940)

Aerial Landing Parties and Action Against Them. By Major V. Nikulin. (Krasnaya Zvyezda, 12 September 1940)

Lecture by Major R.E. Jenkins, Inf., to the Command and General Staff School Class, December-January 1941.

German Mechanized Formations in Poland. (Cavalry Journal, British, July 1940)

The Panzer Arm in Modern War. By Lt.Col. Abel, Ret. (Translation from Deutsche Kavallerie-Zeitung at the Army War College)

Breakthrough at Sedan. By Colonel Conrad H. Lanza. (Field Artillery Journal, February 1941)

Lessons of a Blitzkrieg. By Maj. Gen. H. Rowan-Robinson, British Army, Ret. (Infantry Journal, May-June 1940)

Engineers in the Breakthrough of the Zone of Permanent Fortifications. By Army Engineer N. Babayev. (Translated by Lieutenant Joseph Dasher, U.S.A., from Krasnaya Zvyezda, 21 September 1940)

Ref. General Guderian. (Life, 10 June 1940; Newsweek, June 1940)

Attack or Defense. By Major T.R. Phillips. (Infantry Journal, March-April 1940)

Armored Force. By Captain E.J. Van Horne, Inf. (The Pointer, 17 January 1941)

Peninsular War, 1807-1814. By Maj.Gen. W.F.P. Napier

A Short History of Germany. By Ernest F. Henderson. New York: The Macmillan Co., 1902.

Europe and the German Question. By F.W. Foerster. New York: Sheed & Ward, 1940.

The U.S. and the World. (Fortune, February 1941)

The Holy Bible.

De Gaulle and the Coming Invasion of Germany. By James Marlow. New York: E.P. Dutton & Co. 1940.

Armored Forces and Their Cooperation with Other Arms. (Translation by Army War College)

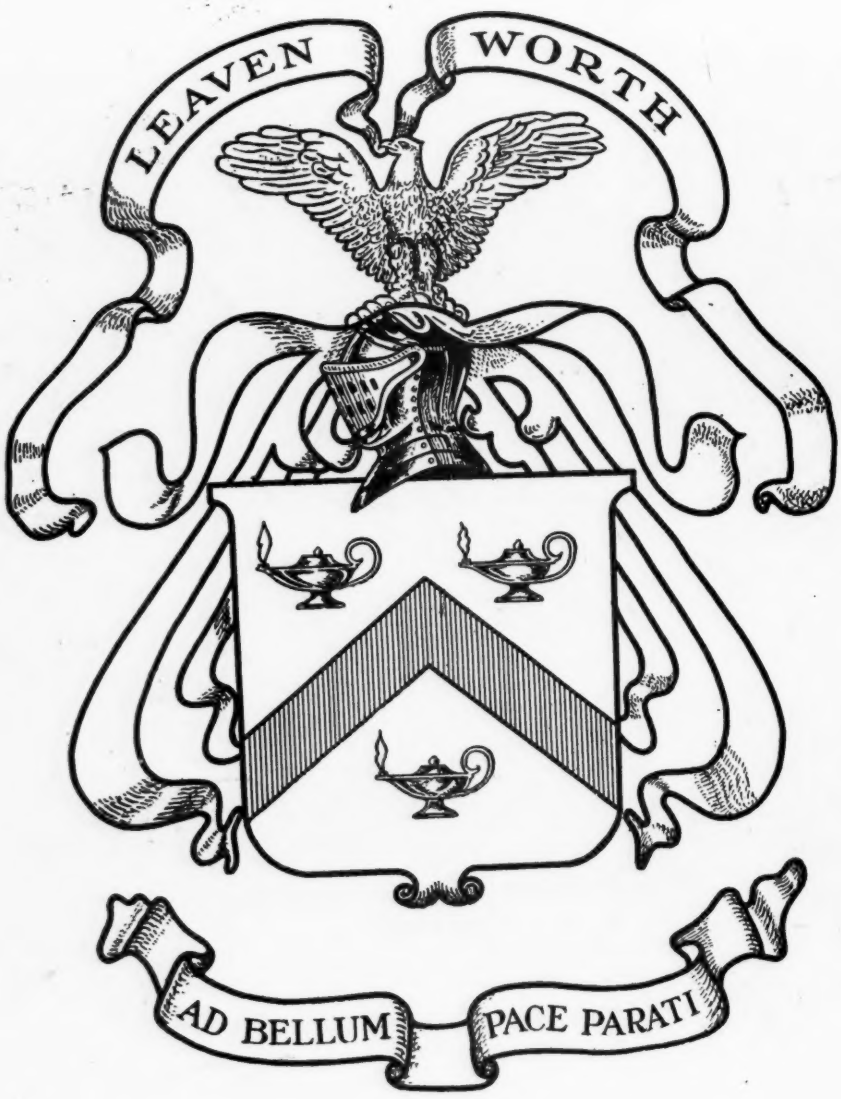
The Army of the Future. By General de Gaulle, Hutchinson and Co., London and Melborne 1940

Many Ancient and Medieval Histories and Books Concerning Those Times.

Several Encyclopedias, etc.

ITALIAN TROOPS ON THE MARCH IN AFRICA

Wide World Photo.


LEAVEN WORTH
AD BELLUM PACE PARATI